

**The Relationship Between Disordered Eating,
Perceived Parenting, and Perfectionistic Schemas**

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ABSTRACT

Background: Both the incidence and prevalence of eating disorders have been steadily rising over the past few decades. Anorexia nervosa is the least common type of eating disorder and also the most severe, being associated with a multitude of physical and psychological sequelae. Anorexia tends to run a chronic course and many sufferers are resistant to therapeutic endeavours, due largely to the egosyntonic nature of symptoms. There is currently no clear understanding of the ways in which predisposing and maintaining variables interact to impinge on eating attitudes and behaviours. This study investigated two potentially interacting variables, parental bonding and perfectionistic schemas. Both variables have been implicated in the onset and maintenance of anorexia (e.g. Bruch, 1978; Davis et al, 2000).

Method: A cross-sectional design was employed, comprising three separate groups: 40 individuals with anorexia nervosa, 44 depressed and/or anxious individuals, and 78 university students. All participants completed the Eating Disorders Examination (either the interview or self-report format; Fairburn & Cooper, 1993; Fairburn & Beglin, 1994), the Parental Bonding Instrument (PBI-S; Pedersen, 1994), and the Young Schema Questionnaire (YSQ-S; Young, 1998).

Main Results: Significant between group differences emerged on all three measures, with the anorexic participants evidencing generally greater psychopathology. Not only did they score significantly higher than both control groups on the measure of disordered eating, but they also endorsed a greater number of maladaptive schemas. The schemas that showed the greatest differences included those purported to relate to perfectionism (e.g. 'unrelenting standards'). In general, anorexic participants perceived their parents as less caring and more controlling than control participants. Significant correlations were revealed within each group, with the coefficients amongst the anorexic group being highly significant and generally stronger than those in the control groups. Significant predictors emerged from a regression analysis, but no mediating effects were found when data were subject to path analysis.

Conclusions: The study's hypotheses were partially met, in that faulty parenting and perfectionistic schemas differentiated anorexics from controls. However, it seems that perfectionistic schemas do not mediate between perceptions of parenting and disordered eating. These results were discussed within the context of the current literature base. The study's methodology was evaluated and possible avenues for future research suggested.

CHAPTER 1: INTRODUCTION

1.1 Background to Study

Although eating disorders are thought to be under-diagnosed (Heffernan, 1995), increasing numbers of new cases are identified each year. Epidemiological research has estimated incidence rates in the UK of 19 per 100,000 per year for females and two per 100,000 for males (Pawluck & Gorey, 1998), and this is approximately double that found during the 1960s (Hoek, 1993). Rates in developing regions have also been steadily increasing and some have drawn parallels with the growing influence of Western culture in these countries (e.g. Lee & Lee, 2000). In a special report on eating disorders published by the British Medical Association (BMA, 2000), a clear recommendation was made that more resources should be made available to mental health services, specifically for the establishment of specialised eating disorder clinics. In recent years, the UK has seen a rise in the number of clinics dedicated to the treatment of eating disorders within both the public and private sectors (Royal College of Psychiatrists, 2004). There is also a growing body of research, with several journals now dedicated to the field. However, many questions remain unanswered about the precise mechanisms that underlie the development and maintenance of disordered eating. Inconsistent findings characterise the evidence base and this may be partly due to the variety of designs employed, groups sampled, and measures used. There has also been a propensity for researchers to consider only simple associations when looking at potential risk factors for eating psychopathology. This study attempts to build on previous research by examining the impact of two such risk factors for disordered eating, namely perceived negative parenting and perfectionistic schemas. The study's design, sample, measures used, and the way in which results were analysed should enhance the current understanding of the ways in which these variables interact and relate to a person's eating pattern. Research of this type is needed in order to inform the design of interventions that may target effectively the factors involved in perpetuating disordered eating.

What follows is a brief introduction to the general area of eating disorders, concentrating primarily on anorexia nervosa (the main focus of this study). Various theoretical models have been proposed to account for the onset and maintenance of anorexia, and these will be outlined. A more detailed summary of the research base in respect of attachment and

parenting will then be presented, followed by a summary of what is currently understood in relation to perfectionism and schemas. These factors will be brought together within a theoretical framework in order to exemplify their dual and interactive impact on disordered eating. Linked to this will be the study's main hypotheses, of which there are seven. The methodology employed will be described, followed by details of analyses conducted and subsequent findings. Results will be discussed in the context of the current body of literature, leading to a number of conclusions. Finally, the study will be critiqued in terms of its strengths and weaknesses, and directions for future research will be suggested.

1.2 Overview of Eating Disorders

Eating disorders are commonly classified into anorexia nervosa (AN), bulimia nervosa (BN) and binge eating disorder (BED) (see DSM-IV; APA, 1994)¹. It is estimated that a large proportion of those exhibiting disordered eating will have an atypical eating disorder (EDNOS), where their clinical presentation does not fit neatly into any one of the aforementioned categories (Beaumont, Kopec-Schrader & Touyz, 1995). AN is characterised by deliberate weight loss to a level at least 15 per cent below the range considered healthy for height and age. This is achieved through excessive dietary restraint and/or purging (e.g. self-induced vomiting, over-exercising, or laxative/diuretic misuse). A morbid fear of gaining weight is coupled with a distorted body image. In females, amenorrhoea can arise whereby menstruation stops or, in younger females, fails to develop. AN can be sub-categorised into a 'restricting' type whereby weight control is achieved solely through strict curtailment of food, or a 'purging' type whereby purgative behaviours are also used. Both types appear to be equally prevalent (Srinivasagam, Kaye, Plotnicov, Greeno, Weltzin & Rao, 1995). BN is diagnosed in the presence of recurrent binge eating, whereby large amounts of food are consumed within a discrete period of time coupled with a sense of lack of control over eating. Compensatory behaviours (e.g. self-induced vomiting, etc.) are employed to prevent weight gain. People with BN tend to maintain a weight within the healthy range, but large fluctuations in weight may also occur. BED is characterised by persistent over-eating, without engagement in purgative behaviours. Individuals with BED are more likely to be overweight or have a body mass index (BMI) that lies within the obese range. Both AN and BN typically arise during the teenage years,

¹ These acronyms will be used throughout this thesis when referring to specific types of eating disorder.

with AN having a slightly earlier age of onset, whereas BED tends to occur during adulthood. Eating disordered individuals may shift between different diagnoses over the course of their eating disorder. For instance, it has been estimated that approximately 40 to 50 per cent of bulimic patients will have a history of AN (BMA, 2000).

High degrees of comorbidity are associated with eating psychopathology (e.g. Sullivan, Bulik, Fear & Puckering, 1998) and, of all the psychiatric disorders, AN is associated with the highest rate of mortality (Harris & Barraclough, 1998). A number of physical and psychological problems are associated with all eating disorders, which have a detrimental impact on day-to-day functioning. For AN, the physical problems are cardiovascular, skeletal, gastrointestinal, renal, haematological, metabolic, dermatological and endocrine. Cardiovascular problems are the most common and most likely to cause mortality. AN affects one to two per cent of the female population (aged 15-30) in the UK and, of these, between six and 10 per cent will die as a result of their illness (BMA, 2000). The psychological sequelae associated with AN include lack of concentration, perceptual and cognitive distortions, depressed mood, withdrawal from peers and family, and cessation of pleasurable activities. AN is also associated with an increased risk of self-harm and suicide (Nielsen, 2001). About 10-20 per cent of sufferers are male (Royal College of Psychiatrists, 2004). AN tends to run a chronic course and is associated with a high rate of relapse (Windauer, Lennerts, Talbot & Touyz, 1993). Hence, AN is considered a severe and enduring mental illness.

Research efforts would not only enhance the interventions available to those with AN, but possibly many more women without a clinical level of disordered eating. Garner and Garfinkel (1979) state that a significant percentage of non-anorexic females can be expected to show eating disordered symptoms that overlap with AN. Sub-clinical eating pathology appears fairly widespread amongst schoolgirls (Al-Subaie, 2000; Edmunds & Hill, 1999) and female college students (Halmi, Falk & Schwartz, 1981; Fairburn & Beglin, 1990). One large-scale survey found that 63 per cent of young women reported that their weight often had a negative impact on how they felt about themselves (Wooley, 1994). This supports the suggestion of a “normative discontent” among Western women in respect of their bodies (Rodin, Silberstein & Striegel-Moore, 1984). Even amongst elderly women, change in body weight is stated as their second most distressing personal concern

(following memory loss), whereas elderly men do not express weight concerns (Rodin et al, 1984).

Despite the prevalence of disordered eating and the rise in incidence of eating disorders over the last half-century, there has not been a matched increase in effective interventions. Although there is a growing body of research in the area of eating disorders, there have been few large-scale studies that have offered conclusive results. Currently, an eclectic approach tends to be applied in clinical practice. Randomised controlled trials (RCTs) for BN (e.g. Fairburn, Jones, Peveler, Hope & O'Connor, 1993) have found cognitive behavioural therapy (CBT; Beck, Rush, Shaw & Emery, 1979) to be associated with superior outcome, closely followed by interpersonal psychotherapy (Klerman, Weissman, Rounsaville & Chevron, 1984). CBT is also recommended for BED (Fairburn, 1995). RCTs investigating treatment outcome for AN may be particularly difficult to conduct due to the characteristics of this clinical group. That is, AN is still a relatively uncommon psychological disorder, making it difficult to recruit the large numbers necessary for an RCT. Also, as AN can be life threatening, ethical considerations may prevent inclusion of some individuals. A further obstacle will be the reluctance of many sufferers to engage in either treatment or research. Notwithstanding, there exist several clinical studies demonstrating the utility of CBT amongst anorexics (e.g. Pike, Loeb & Vitousek, 1996), although Fairburn (1985) warns that this intervention may not be appropriate for the severely emaciated or for those whose motivation to change is particularly low.

The National Institute for Clinical Excellence (NICE, 2004) recommend a person-centred approach within a multidisciplinary framework that includes regular physical monitoring, dietetic advice, and psychological input. Preferably, this should take place on an outpatient basis, but all health providers should have arrangements in place to access specialist inpatient services as necessary (e.g. when physical health is dangerously compromised). High quality information about eating disorders should be provided to all patients and their families, and family interventions should be available for children and adolescents. These recommendations mirror those advocated by Quality Improvement Scotland (QIS, 2007). NICE also suggest that opportunistic questioning should be used within primary care settings to aid detection of eating disorders.

The establishment of a trusting patient-therapist relationship will likely be a crucial factor irrespective of the particular intervention adopted. A sound therapeutic alliance will be especially important in the assessment and treatment of AN, where sufferers are often highly ambivalent about the prospect of changing their eating habits (e.g. Vitousek & Manke, 1994). Hence, motivational work may be required during the initial stages of any intervention for AN in order to help patients engage with the possibility of change.

1.3 Models of Eating Disorders

Genetic: Evidence for a genetic contribution to the aetiology of AN comes from twin and family studies (e.g. Treasure & Holland, 1995). AN sufferers are believed to be biologically predisposed to develop problems with eating, although the exact manner of transmission is unclear. It seems that certain individuals, depending on their genetic makeup, will be particularly vulnerable to the impact of a range of environmental factors that will further predispose and precipitate disordered eating.

Starvation: In terms of the maintenance of AN, neuroendocrine and gastric changes resulting from malnourishment are believed to play a role. Delayed gastric emptying is one way in which the body responds to periods of fasting and this can reduce perceptions of hunger (Garfinkel & Walsh, 1997).

Lifecycle Transition and Stress: Certain developmental transition points or other stressful life events can precipitate the onset of AN. Support for this theory comes from the fact that AN finds its peak incidence during the teenage years (e.g. Garner, Vitousek & Pike, 1997). This period of life is associated with a number of potential stressors (academic/career pressures, increased responsibility, physical changes), which accumulate over a relatively short space of time. These stressors may exceed the young person's resources for coping, leading to more maladaptive means of managing their level of stress, i.e. by using food or weight control as a way of blocking out adverse emotions (Wilson & Fairburn, 1993).

Psychoanalytic: When the child's needs for autonomy and self-expression are thwarted by overly controlling parents, problems developing a coherent sense of self may arise. Also, if the child's emotional needs for warmth and affection are neglected, the child may develop

difficulty with regulating their own emotional states since they will lack an adequate internal model for doing so. Disordered eating is considered a compensatory mechanism that serves to block painful emotions stemming from conflictual relationships and perceptions of self as defective, unlovable or incapable. The excessive restriction of food seen in AN is believed to represent a struggle for independence, competence, control and self-respect (Bruch, 1962).

Cognitive-Behavioural: Attitudes towards food and weight are viewed as central within this model (e.g. Garner & Bemis, 1982). Dysfunctional assumptions, thinking errors, and maladaptive schemas (again stemming from early development) are thought to both predispose and perpetuate disordered eating, since they lead the AN individual to measure their sense of self-worth solely in terms of their food intake and weight.

Family Systems: Within this model, AN is considered primarily a reflection of disturbed roles, alliances or patterns of interaction within the family (Minuchin, Rosman & Baker, 1978). Disordered eating becomes a way of reverting to an earlier stage of development, so that new roles and ways of functioning demanded by progression to the next developmental stage are avoided. The often life-threatening symptoms of AN can act as a diversion from family conflicts surrounding independence and associated threats to the family's unity. Again, disordered eating is used as a coping mechanism that allows the individual to maintain a prepubertal body shape and weight, and may allow all family members a reprieve from other areas of conflict.

Sociocultural: An increasing number of feminist theorists (e.g. Striegel-Moore & Kearney-Cooke, 1993; Wooley, 1994) have emphasised the importance of role conflicts, identity confusion, sexual abuse, and other forms of victimisation in the development of disordered eating. Advertising and other media also play an important role in the aetiology and maintenance of disordered eating. Western portrayals of the female body are predominantly extremely thin, representing an unrealistic goal for most females. Nevertheless, these images become internalised by females as the ideal, leading to body dissatisfaction and dieting behaviour, both of which are independent risk factors for disordered eating (Polivy & Herman, 1985; Button, 1986).

As is the case with most other psychological disorders, no single theory appears to account for the development of AN. Instead, AN is likely to be multifactorial, representing an intricate interplay between various individual and environmental factors that predispose, precipitate and perpetuate eating psychopathology. Pertinent relationships need further exploration, most usefully by way of examining possible mediating pathways amongst factors (e.g. MacBrayer, Smith, McCarthy, Demos & Simmons, 2000). Perceptions of parental bonding and perfectionistic schemas are two variables that appear particularly amenable to such an endeavour. Let us now look at each of these areas in turn.

1.4 Attachment and Parenting

The quality of a person's primary attachment has long been implicated in a range of psychological difficulties (Bowlby, 1973; Ainsworth, Bell & Stayton, 1975), including eating disorders (Bruch, 1962), whereby parents (specifically mothers) tend to be viewed as both unbearably intrusive and vitally necessary. From a psychodynamic perspective, this relationship appears to be played out with food, which is both desired and avoided: "Preoccupation with food may appear as helpless, dependent clinging to parents or as hostile rejection of them" (Bruch, 1974, p.44). Early case descriptions of AN pointed to the family environment more generally as an important predisposing and perpetuating factor (e.g. Marce, 1860). This environment has been characterised as rigid with high levels of overprotection (Minuchin et al, 1978).

A positive parenting environment helps a child to communicate effectively, teaches them to solve problems for themselves, encourages independence, and facilitates the child in managing his/her emotions and behaviour (Sanders, Markie-Dadds & Turner, 2003). Failure to provide such a parenting experience may lead to a variety of psychological difficulties, either during childhood or later on in adulthood (Carr, 1999). From the perspective of attachment theory, the successful transition from childhood to adulthood will depend on how well this is supported by earlier interactions with parents. If parents are responsive to their child's needs and are patient as their child masters tasks and routines, then children will develop their own autonomy and, as a consequence, are likely to have a healthy sense of self-esteem. They will, in turn, be compassionate and patient with themselves (and others), and will have confidence in managing life's challenges. On the

other hand, repeated criticism from parents and a lack of patience may lead their offspring to be overly self-critical and have low self-confidence. Hence, it follows that a secure attachment base throughout childhood will serve a protective function when difficult life transitions and/or events are encountered. Without such a base, problems might arise as the person may lack an adequate template for problem solving or managing their emotions that would facilitate adaptive coping. Further, their resources for support within their attachment network and their own ability to access this may be diminished.

Research investigating the relationship between upbringing and various psychological disorders has highlighted that individuals who characterise the bond to their parents as lacking in care and overly controlling are more likely to suffer from depression and anxiety (Parker, 1983). Amongst individuals with psychosis, those who perceive their parents as low in care and overly controlling are more likely to have recurrent psychotic episodes (Parker, 1984). Similar findings have emerged within the field of eating disorders, with low parental care and high control being implicated in both the onset and maintenance of disordered eating (e.g. Wilhelm, Niven, Parker & Hadzi-Pavlovic, 2005). This is consistent with the suggestion that anorexia results from parents placing excessive limits on their child's freedom during a stage of development (i.e. adolescence) when the child may be struggling to develop her² own identity, separate from the family (Bruch, 1974). The young person may then try to assert her autonomy by controlling her intake of food.

Byely, Archibald, Graber and Brooks-Gunn (2000) carried out a prospective study with adolescent girls using the family relationships scale of the Self-Image Questionnaire for Young Adults (SIQYA; Petersen et al, 1984). They found that negative family relations significantly predicted problematic dieting at one-year follow-up. However, the generalisability of these findings is limited by the restricted nature of the sample: (i.e. pupils attending private girls' schools). Casper and Troiani (2001) used the Family Assessment Measure (FAM; Skinner, Steinhauer & Santa-Barbara, 1983) to assess the functional strengths and weaknesses amongst families of adolescents with AN. Results highlighted differences between AN subtype, in that those with purging AN rated their families as less well functioning than both those with restricting AN and controls (who, somewhat surprisingly, did not differ from each other).

² Since the vast majority of people with AN are female, the feminine pronoun will be used throughout. This should not be taken to imply that males with AN differ from females in respect of the issues raised in this text (although there may well exist pertinent gender differences).

AN has been construed as a form of self-punishment for failing to meet high expectations or to avoid conflicts surrounding secondary individuation (Carr, 1999). Individuating from one's parents or primary caregivers is regarded as one of the primary 'tasks' of adolescence (Harrop & Trower, 2003) and difficulties in doing so may be expected to result in psychological maladjustment. It has been stated that an eating disorder is particularly likely to arise during the period of adolescence, since it allows the youngster to avoid the issues posed by this transitional stage (Crisp, 1980). Transitional stresses may also impact negatively on the family as a whole, especially when there are other difficulties or transitions being negotiated at the same time (e.g. eldest child leaving home, retirement). As family members strive to adopt new roles and systems of support, an eating disorder may force them to revert to roles and routines from a former stage of the family's lifecycle and, hence, avoid or delay the challenges involved in moving to the next stage (Dare, 1985). In this way, the family system itself would act (unconsciously) to maintain the eating problem.

It is also during the adolescent years that the effects of the media have their greatest influence (BMA, 2000). Self-image can be crucially important to young people and the types of image they are bombarded with may exert a high degree of pressure on youngsters to conform to such images. In particular, the very thin body ideal that is predominantly portrayed through television, film, magazines, etc. is not one that most people could ever attain, or at least not without detrimental physical and psychological consequences. Negative comparisons regarding one's own body image are likely to result, leading to feelings of inadequacy with associated low self-esteem. Furthermore, it has been found that parents increasingly criticise their child's appearance as the child gets older (Striegel-Moore & Kearney-Cooke, 1994). We might expect that the potential to elicit parental disapproval to increase as the child grows up (if even some of the time) as responsibility for an increasing number of tasks is gradually handed over to the youngster, rather than being the responsibility of the parent(s). However, if such views entail frequent criticism, then psychological difficulties may well arise. This would be especially likely if parental criticism occurs against the backdrop of an insecure or ambivalent attachment, since the young person may already have a fragile sense of self-identity and self-worth. More specifically, if aspects of a young person's body are the target of critical comments, then this could have an adverse effect on their body image and their relationship with food.

Teasing about weight and other negative comments concerning body shape have been found to negatively influence eating behaviour and attitudes (Heinberg, 1996). Smolak, Levine and Schermer (1999) investigated this further with a group of primary school children and their parents. They found that parental comments concerning their child's weight were significantly associated with more weight loss attempts and lower body esteem in both boys and girls. This association was stronger for girls and especially so in respect of mothers' comments. Similar results have been found amongst adolescent females (Pike & Rodin, 1991). Eating disordered women also recall more negative comments from family members about their eating, appearance and/or weight than do comparison women (Fairburn, Cooper, Doll & Welch, 1999). Beresin, Gordon and Herzog (1989) interviewed 13 women who had recovered from AN in terms of what they felt had been important factors in precipitating their illness. Mothers were described as being particularly intrusive and discouraging of independence, and also excessively concerned with appearances.

It therefore seems that individuals raised without a secure base of attachment, involving an emotionally distant and rejecting parent who may also be perceived as overly critical and controlling, will be at increased risk for the development of an eating disorder. It is interesting to note that self-destructive behaviour (of which disordered eating may certainly be considered) has also been observed in non-human primates when they become isolated from their mothers (Van der Kolk, Perry & Herman, 1991). This suggests that a predilection to engage in self-harm exists across primate species when faced with loss or lack of care from one's primary attachment figure.

Eating psychopathology may serve an interpersonal function, whereby upsetting feelings that are difficult to articulate are communicated through disordered eating (Goldner, Cockell & Srikaneswaran, 2002). One study compared the adult attachment styles of a heterogeneous sample of eating disordered inpatients and outpatients with a community sample of healthy controls (Ward, Ramsay, Turnbull, Benedettini & Treasure, 2000). The Reciprocal Attachment Questionnaire (RAQ; West & Sheldon-Keller, 1994a) was administered to all participants. Results suggested that regardless of their particular disorder (restricting AN, purging AN, BN, BED or EDNOS), eating disordered individuals exhibit a "pull-push" dilemma in relation to their primary attachment figure and that this is related to an insecure attachment during childhood. This is consistent with the view that the

AN sufferer's obsessive rumination about food and weight, together with their avoidance of food, represents deep-rooted conflicts between mother and child (Bruch, 1974).

Some formulations of eating disorders have emphasised a sense of lack of control over one's life as a major factor (e.g. Slade, 1982). Parental control, or overprotection, is characterised by an intrusive over involvement in their offspring's affairs and thereby prevents autonomy from developing. The individual who perceives their parent(s) as overprotective may come to believe that they cannot control their own lives. Hence, food may be used as a means of regaining control and asserting independence. A number of studies appear to lend support to this hypothesis. For example, Ogden and Steward (2000) devised a brief six-item questionnaire to examine beliefs of the mother-daughter bond from the perspective of both parent and child. They found that daughters were more likely to report dissatisfaction with their body shape and weight when mothers reported low beliefs in their daughter's right to be autonomous. Calam and Slade (1987) found that abnormal eating attitudes were related to parental overprotection and also low parental care among a non-clinical sample. However, a slightly later study found that both anorexics and bulimics perceived their parents as low in care but not as overly controlling (Palmer, Oppenheimer & Marshall, 1988). These latter two studies employed the Parental Bonding Instrument (PBI; Parker, Tupling & Brown, 1979), which is a measure of both perceived care and control in relation to each parent and, as such, appears to encapsulate the pertinent elements of parenting suggested by the literature.

A number of other studies have specifically investigated the dimensions of parental care and control in their relationship to disordered eating. Calam, Waller, Slade and Newton (1990) administered the PBI to a group of women with either AN or BN and compared responses to a group of female volunteers. Results highlighted that the eating disordered participants were significantly more likely to perceive their mothers as less caring and their fathers as less caring and overly controlling. However, in another study (Walters & Kendler, 1995), only maternal control was significantly related to AN. In a study of female undergraduates (Haudek, Rorty & Henker, 1999), only low maternal care emerged as a significant predictor of disordered eating attitudes and behaviours. Conversely, only high maternal control was significantly related to disturbed eating in a group of schoolgirls (McCourt & Waller, 1995). Comparing AN and BN, Sordelli, Fossati, Devoti, La Viola and Maffei (1996) found that AN patients perceived their mothers as significantly more caring and their fathers as

significantly less controlling than did the BN patients. There were no differences relating to maternal control or paternal care. Sordelli and colleagues make reference to 'object relations' theory (Mahler, 1968), positing that those with AN are prone to hold idealised object (i.e. parental) representations that may serve to disguise conflictual relationships. Hence, the person with AN may not acknowledge disturbed bonds even where these exist, or may avoid thinking about conflicts in order to maintain their idealised view.

Despite varied attempts to elucidate the specific nature of the parent-child bond, its role in the development and maintenance of eating disorders remains unclear, since the evidence base is replete with inconsistent findings. Overall, there is no one particular type of parental bond that has definitively gained objective evidence (Eisler, 1995). One explanation for this is due to the ways in which both disordered eating and parental bonding have been conceptualised and measured, and the other relates to the different samples studied (e.g. clinical versus non-clinical, adolescents versus adults). Where patterns of bonding have been found however, they have tended to indicate low care and, to a lesser extent, high control. Irrespective of the way in which the parental bond is perceived, it is generally believed that such perceptions existed prior to the onset of disordered eating and are not negatively influenced by psychopathology (e.g. Parker, 1984). Therefore, faulty parenting, regardless of the instrument chosen to measure this, may be considered a predisposing factor for the development of AN, and may also be expected to act in the maintenance of the disorder once it has arisen.

It should be emphasised that the parental bond is not considered single-handedly responsible for the development of AN. Where significant correlations have been found between parenting style and psychopathology, their magnitude has been low, suggesting that other influences are involved. It therefore seems that certain styles of parenting may interact with a number of individual and environmental variables to increase vulnerability to the development of AN in the context of particular precipitating events. Research should focus on these interactions and aim to establish the mechanisms by which relationships are mediated or moderated by key variables. Let us now look at one such individual variable, namely perfectionism.

1.5 Perfectionism and Schemas

There are both positive and negative types of perfectionism (Hamachek, 1978; Burns, 1980). Positive or 'normal' perfectionism is characterised by a positive achievement orientation, whereby individuals are motivated to set high goals for themselves but do not evaluate their self-worth on the basis of their success or failure in attaining such goals. Rather, it is the process of aiming towards a high standard that is of importance and which instils satisfaction, regardless of outcome. Negative or 'neurotic' perfectionism does not involve a sense of satisfaction, either in terms of positive striving or goal attainment. Not only do people with clinical perfectionism set unrealistically high standards for themselves, but they are also likely to discount successes when goals are occasionally reached. Their efforts never seem quite good enough and they will tend to set increasingly unattainable goals. The possibility and fear of failure is always prominent, which may lead to performance anxiety and, in turn, task avoidance or procrastination (Frost, Marten, Lahart & Rosenblate, 1990). This, of course, will further limit opportunities to feel good about themselves. People with negative perfectionism tend to "over-value performance and undervalue the self" (Hamachek, 1978, p.29).

Horney (1950) defined perfectionism as "the tyranny of the shoulds", whereby continually high standards of performance must be achieved in every domain. It is not enough to succeed just some of the time or to only partially meet goals. In evaluating their performance, the perfectionist will selectively attend to what went wrong, or could have gone wrong, or what may go wrong in the future. Such cognitive processes will serve to maintain one's perfectionistic outlook (Hollender, 1978), as high standards will continue to be enforced in an attempt to overcome the possibility of sub-standard performance. The anxiety provoked by their focus on failure may not only lead to avoidance of tasks, but also sub-optimal performance when tasks are attempted. Self-recrimination is likely to arise following the transgression of any rule or 'should' statement. Associated feelings of hopelessness may also feature, as the perfectionist comes to despair that they lack the ability to meet their unrealistic standards.

More recently, clinically relevant perfectionism has been defined as, "the overdependence of self-evaluation on the determined pursuit of personally demanding standards in at least one highly salient domain, despite adverse consequences" (Shafran, Cooper & Fairburn,

2002, p.778). This clearly suggests that when standards are overly valued in one particular area (rather than a constellation of areas), self-criticism is likely to result when standards are not met. This is because even high performance in other domains does not balance their self-view; it is the attainment of goals in the salient domain that is important. So, for example, the individual with AN may feel increasingly worthless when they find their pattern of eating difficult to maintain, even though she may be performing well in other areas of life (e.g. at school/work, in relationships, etc.). Even if she acknowledges the negative consequences of her continued strivings, she is unlikely to relent since her goals of weight loss and control over eating comprise such a valued domain. The ever-narrowing focus on just one domain for one's sense of satisfaction may actually simplify a person's life by affording a sense of structure and control in the context of any number of stressors (e.g. family life, relationships, career, etc.). It has been proposed that an individual whose self-esteem is not reliant on weight and shape will be unlikely to manifest disordered eating, even if perfectionistic (Goldner et al, 2002). However, perfectionism may then present in other ways. For example, Stonehill and Crisp (1977) followed up a group of AN patients four to seven years post-recovery. They had significantly higher social phobia scores than they had prior to their treatment. This led the authors to conclude that as long as the perfectionistic focus is on weight, other issues may be avoided. As the anorexic overcomes her illness, she is likely to face increased social demands, leading to the emergence of social anxiety (i.e. the manifestation of perfectionistic behaviour in the domain of social performance). Hence, perfectionism appears to remain stable, although may find different modes of expression over the course of time.

The pursuit of unrelenting standards has been repeatedly documented in relation to AN since the late 18th Century (e.g. Lesegue, 1873). Perfectionism is considered a particularly strong risk factor for AN, both in terms of its development (Lilenfeld, Stein, Bulik, Strober, Plotnicov, Pollice et al, 2000) and maintenance (Slade, 1982). There does appear to exist a similar relationship between perfectionism and psychological dysfunction more generally, as depressed and anxious individuals demonstrate elevated levels of perfectionism compared to controls (Pacht, 1984), but not in comparison with AN sufferers (Hewitt & Flett, 1991). At the core of AN psychopathology lies a worthless self-view because of failure to maintain their own high standards, and sufferers often feel powerless in terms of their ability to ever achieve these standards (Carr, 1999). Even amongst non-eating disordered women, those with perfectionistic standards for personal performance tend to

have greater body dissatisfaction than less achievement-oriented women of identical weight (Rodin et al, 1984). Hence, it may be said that AN is the ultimate manifestation of perfectionism in the domain of body shape and weight, whereby targets for weight loss and food restriction are taken to the extreme. Because these targets are so excessive, loss of weight may be viewed as a positive achievement and may be strongly reinforcing. Indeed, 'successful' food restriction can make anorexics feel "triumphant", "powerful" and "proud" (Vitousek & Manke, 1994). A sense of control over one's body may help the anorexic individual combat feelings of inadequacy in the context of their unrelenting standards. However, meeting extreme standards in relation to weight and eating will eventually be unattainable, which will only exacerbate feelings of ineffectiveness and failure over the longer term.

Perfectionism has been cited as a potential obstacle in terms of establishing a therapeutic alliance (Blatt, Zuroff, Bondi, Sanislow & Pilkonis, 1998). This may be particularly problematic when working with anorexics where the target for change will be the very thing they value, i.e. their unrelenting standards in the domain of body weight and shape. This may also mean that they are reluctant to seek help in the first place. Related to this, greater levels of perfectionism have been associated with a diminished motivation to change and also more severe eating pathology amongst a sample of anorexic patients (Halmi, Sunday, Stober, Kaplan, Woodside, Fichter, Treasure, Berrettini & Kaye, 2000). It has also been found that patients with AN who completed treatment had significantly lower levels of perfectionism than those who dropped out of treatment (Sutandar-Pinnock, Woodside, Carter, Olmsted & Kaplan, 2003).

Slade (1982) described perfectionism as a primary 'setting condition' for the development of AN. Combined with a general dissatisfaction, perfectionism generates a need to control some aspect of life and, Slade argues, that weight would seem a feasible target, especially amongst young Western women. Slade and colleagues later developed the Setting Conditions for Anorexia Nervosa Scale (SCANS; Slade & Dewey, 1986), which was used in a study of more than 400 female students (Kiemle, Slade & Dewey, 1987). Results indicated that dissatisfaction with life, perceived lack of control, and perfectionistic tendencies were all closely related to abnormal eating attitudes and behaviours. However, another study found no association between disturbed eating and perfectionism when the

SCANS was completed by a similarly large group of female students (Waller, Wood, Miller & Slade, 1992).

A more widely used measure of perfectionism is the Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart & Rosenblate, 1990). It comprises six subscales, relating to 'concern over mistakes', 'doubts about actions', 'personal standards', 'parental criticism', 'parental expectations', and 'organisation'. Another widely used measure is Hewitt and Flett's (1991) MPS, covering 'self-oriented', 'other-oriented', and 'socially-oriented' aspects of perfectionism. Bastiani, Rao, Weltzin and Kaye (1995) compared AN patients to healthy controls, on these two multidimensional measures. Levels of perfectionism were significantly elevated in the AN group, irrespective of the MPS version administered. From the Hewitt and Flett scale, it was also highlighted that the anorexics' perfectionistic standards were self-imposed and were not the result of other people's expectations of them, nor the result of their expectations of others. This lends credence to the view that negative perfectionism has more to do with views regarding one's own performance (e.g. Burns, 1980). Bastiani et al's results should be interpreted with caution however, as their sample size was small (i.e. less than 20 in each group). Also, Frost et al's measure has been criticised for tapping the more positive aspects of perfectionism (i.e. 'organisation') and that 'doubts about actions' are more an obsessive-compulsive trait rather than a central component of perfectionism (Shafran & Mansell, 2001). Further, two dimensions of Frost et al's MPS assess views of parenting and so may not be the most useful measure when attempting to disambiguate the impact of both parenting and perfectionism on AN. Although it is insufficient to consider just simple associations when exploring predisposing and perpetuating factors, these still need to be clearly delineated in order to uncover the interactive effects on psychopathology.

Terry-Short, Owens, Slade and Dewey (1995) devised an instrument to assess both the positive and negative aspects of perfectionism by including scales from both multidimensional scales above. They included Frost et al's 'personal standards' and 'organisation' subscales, and Hewitt and Flett's 'self-oriented' and 'other-oriented' subscales as a measure of positive perfectionism. Negative perfectionism was assessed by way of Frost et al's 'concern over mistakes', 'parental criticism', 'parental expectations' and 'doubts about actions' subscales, and Hewitt and Flett's 'socially-prescribed' subscale. They found that anorexics scored more highly than depressed patients, athletes and normal

controls in respect of both negative and positive perfectionism. However, their classification of perfectionism by way of these scales is questionable in that theoretical writings, together with the current research base, indicate high personal standards in relation to oneself to be at the root of negative perfectionism.

Davis, Claridge and Fox (2000) employed the 'self-oriented' scale of Hewitt and Flett's (1991) MPS as a measure of normal perfectionism, arguing that it also includes items relating to the more adaptive components of perfectionism (e.g. the setting of high, but realistic goals). Negative perfectionism was also assessed by way of the Neurotic Perfectionism Scale (NPQ; Mitzman, Slade & Dewey, 1994), which measures fear of failure, concerns about making mistakes, and the degree to which unrealistic standards are set. The authors concluded that neither type of perfectionism represented an independent risk factor for disordered eating amongst their sample of more than 200 female undergraduate students. Using structural equation modelling, they found that negative perfectionism only gained its effects through a combination of anxiety-proneness (or neuroticism) and a hypercritical self-view. However, it does seem that anxiety and a tendency to be overly self-critical are both components of negative perfectionism. If someone has a fear of failure, we might expect them to exhibit anxious traits; and if they are inclined to set unrealistic standards, then their perpetual strivings may well lead them to overly criticise themselves when these standards are not met. Hence, Davis et al's conclusion seems unsubstantiated, i.e. perfectionism by itself may still represent a risk factor for AN. In support of this, when Halmi, Goldberg, Eckert, Casper and Davis (1979) interviewed parents of 44 AN sufferers, they discovered that 61 per cent of these patients were described as perfectionists prior to the onset of disordered eating.

In a prospective study by Tyrka, Waldron, Graber and Brooks-Gunn (2002), adolescent girls aged 12-16 were administered the Eating Attitudes Test-26 (Garner, Olmsted, Bohr & Garfinkel, 1982) and the perfectionism subscale of the Eating Disorders Inventory (EDI; Garner, Olmsted & Polivy, 1983). These measures were completed again eight years later. Girls who had developed the 'anorexic syndrome' (as measured by the EAT-26) by adulthood had significantly higher EDI perfectionism scores at initial screening than the young adults who did not present with anorexic symptoms. Levels of disordered eating were not predictive of later onset in that there were no significant differences in initial EAT-26 scores between those who developed problematic eating and those who did not. This

suggests that perfectionism precedes the development of dysfunctional eating attitudes and behaviours. Interestingly, perfectionism scores did not predict the 'bulimic syndrome', suggesting that it may be a more potent antecedent for the development of AN symptomatology. If perfectionism is a consequence of AN, we would expect to find no differences in perfectionism amongst individuals whose AN had remitted and healthy controls. However, studies that have examined this report high levels of perfectionism even amongst AN individuals who are considered fully recovered (Bulik, Sullivan, Fear & Puckering, 2000; Srinivasagam et al, 1995). The finding that anorexics are often described as 'model' children by their parents (Inbody & Ellis, 1985) also suggests that perfectionistic tendencies may underlie the disorder. Therefore, perfectionism seems likely to be an individual trait that acts as a risk factor for the development of AN. Epidemiological studies have uncovered a substantial genetic component to the aetiology of both AN (Bulik et al, 2000; Fairburn et al, 1999) and perfectionism (Davis, 1997; Halmi et al, 2000), but little is known about how such genetic predisposition interacts with environmental factors in leading to the emergence of AN.

Some researchers (e.g. Garner et al, 1997) have conceptualised AN within the cognitive model of psychological dysfunction (Beck et al, 1979; Young, 1994; Padesky, 1994), citing the role of particular types of thinking errors or cognitive distortions. These typically include dichotomous thinking (i.e. viewing experiences in all-or-nothing terms) and overgeneralisation (i.e. assuming one example is like all others). The person with AN may think that eating anything more than their set calorie limit highlights a complete loss of control, and any deviation from a set weight means that they are a complete failure. Such distortions are driven by underlying dysfunctional beliefs, or schemas, which are understood to represent the deepest level of cognition and which are formed largely during early childhood as a consequence of relationships with significant caregivers. Schemas act as a filter through which information about the world, others and oneself is processed. Although schemas may originally serve the purpose of allowing the child a means of comprehending their early environment, schemas can become maladaptive as circumstances change and the child matures. Early maladaptive schemas are thought to be self-perpetuating and highly resistant to change (Young, 1990), and may lie dormant for many years until activated by some triggering event(s) later in life. Schemas will be maintained by the magnification of information consistent with these entrenched beliefs and by minimising inconsistent information. It therefore seems that schemas will be a worthwhile

focus of attention during the assessment and treatment of a range of psychological disorders. Although schemas are thought to act through largely unconscious processes, it is believed that they will be evidenced through particular patterns of behaviour throughout a person's life, and through common themes of relating to others and oneself. They may be elicited by means of questionnaires covering items that load highly on aspects of the construct under investigation (e.g. typical perfectionistic cognitions, such as "I must do the very best I can at work, school, etc.").

Schema-level representations have been suggested to lie at the core of all eating disorders (Waller et al, 1992; Garner et al, 1997). From what is known about perfectionism and AN, it seems that schemas relating to the pursuit of excessive goals and also a focus on failure will be involved. The Young Schema Questionnaire (YSQ) was developed to assess several maladaptive schemas considered primary in psychological disorder (Young, 1990). Although Young's model was originally based on personality disorder, it has found utility in other areas of psychological dysfunction, such as depression (Welburn, Dagg, Coristine & Pontefract, 2000). Each of Young's schemas are briefly described below, which represent all 15 contained in the short form of the Young Schema Questionnaire (YSQ-S; Young, 1998):

- Emotional Deprivation (the belief that one's desire for emotional support will not be adequately met);
- Abandonment (the belief that one's resources for support are unstable or unreliable);
- Mistrust and Abuse (an expectation of others as hurtful, abusive, manipulative or negligent);
- Social Isolation (the feeling that one is different from others and isolated from the world);
- Defectiveness (the belief that one is bad, unwanted, inferior);
- Failure (the belief that one has failed or the expectation that one will fail in various areas of achievement, e.g. school, career, sports);
- Dependence (the belief that everyday responsibilities cannot be handled by oneself and an associated sense of helplessness);
- Vulnerability to harm/illness (the anticipation of imminent catastrophe);
- Enmeshment (excessive emotional involvement in one or more significant others at the cost of full individuation or normal social development);

- Subjugation (excessive submission to others to avoid anger, retaliation or abandonment);
- Self-Sacrifice (repeatedly and voluntarily meeting the needs of others at the expense of one's own needs and wishes);
- Emotional Inhibition (the inhibition of spontaneous action, feeling or communication, usually to avoid disapproval or because of feelings of shame);
- Unrelenting Standards (the belief that one must attain high targets of behaviour and performance);
- Entitlement (the belief that one is superior to others and therefore deserving of special privileges and rights);
- Insufficient Self-Control (difficulty in exercising sufficient self-control and frustration not easily tolerated).

Three of the above schemas would appear to encapsulate the specific schematic content of perfectionism. These are Defectiveness, Failure, and Unrelenting Standards. As negative perfectionism is primarily defined by the setting of excessively high goals and as AN is defined by exceedingly strict eating habits, Unrelenting Standards schema would seem a prime candidate for examination amongst AN individuals. As their standards are so high, the possibility of failure will be a perpetual source of anxiety and any slip or unsuccessful attempt will be easily construed as evidence for their self-denigrating thoughts. Feelings of shame, low self-esteem, and defectiveness will likely be associated, as the individual with negative perfectionism discounts successes and dwells on their shortcomings. Indeed, Young, Klosko and Weishaar (2003) state that Failure and Defectiveness schemas are closely related and often co-exist. Negative perfectionism appears to involve schemas that lock the individual into a narrow and rigid way of behaving and perceiving the world. Young's questionnaire would appear to offer a potentially insightful means of elucidating the core cognitive structures thought to underpin and maintain eating psychopathology (e.g. Slade, 1982; Shafran et al, 2002).

1.6 An Integrated Picture

Several theorists state that interactions with one's parents will be crucially important in the development of perfectionism. Burns (1980) states that perfectionism has its origins in relationships with one's parents. Goldner et al (2002) refer to inconsistent or critical responses from parents as a primary determinant of negative perfectionism. In relation to her young patients with AN, Bruch (1978) said that the need for control and perfection arises from a deep sense of ineffectiveness stemming from faulty relations with parents, and that disordered eating develops as a compensatory strategy for blocking out feelings of emptiness and defectiveness. Barrow and Moore (1983) discuss four types of early experience that could lead to perfectionistic thinking: 1) overly critical and demanding parents; 2) high parental expectations and criticism; 3) absent, inconsistent or conditional parental approval; and 4) parental modelling of perfectionistic attitudes and behaviours. Surprisingly, there has been a limited amount of empirical research looking specifically at the impact of both parenting and perfectionistic beliefs on the development and maintenance of AN.

Leung, Thomas and Waller (2000) investigated parental bonding and maladaptive schemas in a group of AN patients ($N = 30$), BN patients ($N = 27$), and also a group of comparison women ($N = 25$). Responses on the PBI (Parker et al, 1979) indicated that the eating disordered participants viewed both parents as less caring and mothers as more controlling than did the comparison women. Fathers of women with BN were viewed as more controlling than were fathers of AN or comparison women. Responses on the YSQ (Young, 1994) highlighted more pathology on each scale amongst those with an eating disorder. In addition, correlations between perceived parenting and schemas were strongest among the AN group. Specifically, low maternal care was highly predictive of 'mistrust and abuse', 'defectiveness', 'emotional inhibition' and 'unrelenting standards', whereas low paternal care predicted 'mistrust and abuse' and 'insufficient self-control'. This study would have benefited from inclusion of a non-eating disordered but otherwise psychologically disturbed comparison group. Such a group would have shed light on whether the results were specific to eating psychopathology or were instead associated with more general psychological dysfunction. Further, the comparison women were not screened for levels of disordered eating and so may not have constituted a 'healthy' control group.

Another study examined perceived parenting and schemas in a non-clinical sample of adolescents (Turner, Rose & Cooper, 2005). More than 300 secondary schoolgirls were administered the PBI, YSQ (Short Form; Young, 1998) and the EAT (Garner & Garfinkel, 1979). Low parental care and high maternal control were significant predictors of disturbed eating, explaining 10 per cent of the variance in EAT scores. In addition, it was found that the relationship was perfectly mediated by the existence of 'defectiveness' and 'dependence' schemas. The authors suggested that low levels of care may lead to the development of the belief that one is flawed and unworthy of affection, and high levels of maternal control may nurture the belief that one is incompetent in handling everyday tasks. Although these two subscales of the YSQ were not intended to measure perfectionism *per se*, both feelings of defectiveness and dependence may be incorporated in a perfectionistic outlook. That is, the belief that one is unlovable and in some way faulty, or imperfect, implies an overly critical self-view that could stem from excessive standards for their own lovability or self-presentation of perfection. Also, feelings of incompetence or inadequacy could be a consequence of setting of excessively high personal standards, many of which may be unattainable. The findings of this study are limited in that no clinical group was included.

In an interview-based study, Tozzi, Sullivan Fear, McKenzie and Bulik (2003) followed up 69 women who had been referred for treatment of AN approximately 12 years earlier. More than one third highlighted family dysfunction as contributing to their illness and this was largely characterised by poor parental care and high overprotection. Twenty per cent indicated their own perfectionistic tendencies as contributing to their disorder and a further seven per cent highlighted high parental expectations.

Bulik et al (2000) followed up a sample of 70 women with AN who had been assessed or treated over a decade earlier. On the PBI, they found that women who were categorised as 'chronically ill' perceived both parents as significantly less caring than did those who were classified as either 'fully recovered' or 'partially recovered'. Although schema level representations were not examined, scores on the perfectionism subscale of the EDI (Garner et al, 1983) were significantly higher amongst women with AN compared to control women. This result held regardless of AN recovery status and replicates earlier findings demonstrating the persistence of high levels of perfectionism amongst those recovered from AN (e.g. Srinivasagam et al, 1995). Unfortunately, Bulik et al's design did not allow for the

exploration of possible mediating effects amongst variables. Also, it should be noted that the EDI perfectionism subscale contains only six items, covering both personal standards and parental expectations. Thus, as a measure of perfectionism, the EDI seems inadequate, since findings will be confounded by perceptions of parental standards, which are not considered a core feature of negative perfectionism (e.g. Shafran & Mansell, 2001). As stated previously, the core feature of negative perfectionism is the excessively high goals that individuals set for themselves. Also, both the PBI and the EDI would be expected to correlate as they both measure aspects of parenting. This would have the effect of strengthening the correlations found between perfectionism and AN, and may also have inflated differences between groups.

Focusing on bulimic psychopathology, Meyer and Gillings (2004) administered the PBI, the YSQ-S and the Bulimic Investigatory Test, Edinburgh (BITE; Henderson & Freeman, 1987) to more than 100 healthy young women. Paternal control was the only variable associated with bulimic symptoms and this was partially mediated by ‘mistrust and abuse’ schema. Murray, Waller and Legg (2000) examined the same variables by way of the PBI, the Bulimia Test (BULIT; Smith & Thelen, 1984) and the Test of Self-Conscious Affect (TOSCA; Tangney, Wagner & Gramzow, 1989). Once again, high paternal control was associated with greater levels of bulimic attitudes, and this relationship was perfectly mediated by feelings of shame.

Theoretically, we might expect rejecting and controlling parenting to shape the development of maladaptive perfectionistic schemas, rather than the other way round. That is, being raised in an environment where freedom is inhibited and care is lacking would likely lead to perceptions of self as incapable and also unworthy unless high standards are met. The person experiencing parents as lacking in care and overly controlling may come to internalise the belief that they will only gain the approval of others by striving to meet goals in various domains; for example, at school, work, in relationships and - particularly pertinent to those with AN – body shape and weight. By setting increasingly unattainable standards for weight loss and control over eating, the individual aims to regain some autonomy or, indeed, elicit care. To consider the alternative pathway is to state that an individual’s perfectionistic schemas impinge on either their perceptions of the parental bond or that their perfectionism leads one’s parents to be overly controlling and lacking in care. It also seems feasible that the quality of the parental bond represents a dynamic interplay in which perfectionism is reinforced by negative styles of parenting, and negative parenting

is reinforced by the offspring's perfectionistic tendencies (e.g. procrastination and/or excessive time spent on tasks, ritualised behaviour, etc.). Considering the cognitive model of psychological dysfunction (e.g. Beck et al, 1979), it seems likely that faulty relations with parents during one's early development leads to the formation of maladaptive schemas, which in turn lead to psychopathology. Attachment theory is somewhat more vague on the underlying mechanisms involved, but still supports the aforementioned pathways by proposing the early environment as key in the development of maladaptive schemas and compensatory behaviours (e.g. disordered eating). Once established, perfectionistic schemas are likely to interact with perceptions of parenting in a mutually reinforcing manner.

A cognitive formulation for AN is provided in Figure 1.1 in terms of predisposing, precipitating and perpetuating factors. A genetic vulnerability is thought to underlie AN but, while this may be a necessary factor, it is not sufficient for the emergence of disordered eating (Treasure & Holland, 1995). Early attachments that do not provide a secure and nurturing base in which autonomy is encouraged are likely to be associated with parenting styles that are perceived as lacking in warmth and overly controlling. From this early environment, certain maladaptive schemas may be expected to arise. Principally, in respect of AN, these are likely to surround issues of high personal standards and an unrelenting struggle to attain these. A host of pressures that typically occur during adolescence and young adulthood may activate the early maladaptive schemata and, in turn, precipitate psychological dysfunction. Without a secure attachment base, the person may feel overwhelmed when faced with the increased pressures experienced throughout adolescence and young adulthood. Disordered eating attitudes and behaviour may develop as a means of asserting autonomy whilst, at the same time, avoiding difficult life stage transitions. Perceptions of negative parental bonding would also serve a maintaining role as would the continued demands of becoming a fully independent adult. Perfectionistic schemas would also exert a maintaining influence, especially in terms of the relentless pursuit of thinness, with unattainable, and increasingly unsustainable, targets for weight loss and/or eating restraint. The AN individual will manifest a range of perceptual and cognitive distortions (e.g. viewing themselves as overweight when actually emaciated, black and white thinking), which will be further maintained by the physical effects of starvation itself. Finally, the disordered eating attitudes and behaviour may become self-perpetuating due to a short-lived sense of satisfaction (or relief from dissatisfaction) as the AN sufferer learns to master exceedingly strict dietary rules. The physical effects of starvation may also allow the

numbing of emotional distress (e.g. Tozzi et al, 2003). In addition, the concern from others about their eating habits and weight may actually reinforce positive feelings towards their disorder in terms of the care elicited by the 'sick role'. When viewed in this context, one can see why people with AN are often highly ambivalent about the prospect of change (e.g. Vitousek & Manke, 1994).

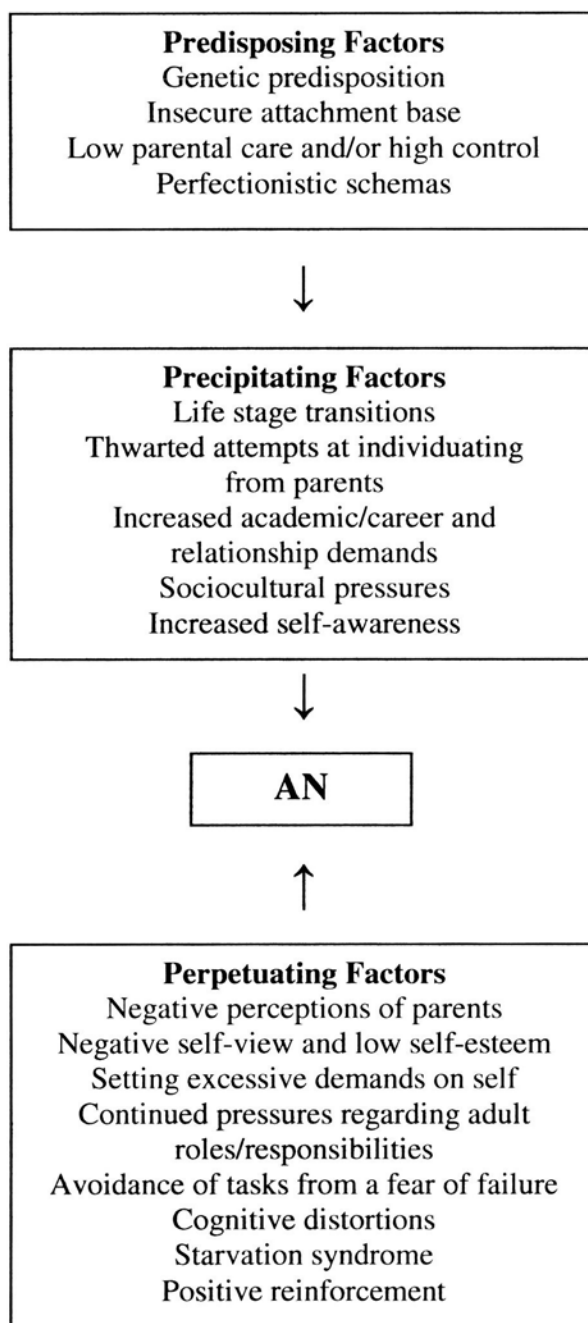


Figure 1.1: Theoretical conceptualisation of AN

As stated by Calam et al (1990), “Understanding the psychological mediators between family interaction and psychopathology will help in both the prediction and the treatment of eating disorders”(p.484). It is possible that this could extend to preventative efforts for those considered at risk in terms of faulty parenting and maladaptive perfectionistic schemas. This study aims to examine the prevalence of perceived negative parenting and perfectionistic schemas amongst individuals with AN, and to test a possible mediational pathway between parental bonding and disordered eating; that is, through the existence of perfectionistic schemas. The study is placed primarily within Young’s (1994) cognitive framework. With reference to the literature on perfectionism, there are three schemas that seem most salient in relation to clinical perfectionism: Defectiveness, Failure, and Unrelenting Standards.

To date, there has been no other study that has specifically examined perfectionism at the level of schemas involving a sample of AN individuals. Where perfectionism has been investigated within eating disordered samples, researchers have not always included an objective and validated measure of disordered eating. Further, no study examining these factors have employed both a healthy control group and a psychologically disturbed comparison group.

1.7 Hypotheses

The following hypotheses governed the present study:

1. The anorexic group will harbour more negative perceptions of their parents (i.e. low care / high control) than both the primary care comparison group and healthy controls;
2. Perfectionistic schemas (i.e. ‘defectiveness’, ‘failure’, and ‘unrelenting standards’) will be more prevalent amongst the anorexic group than amongst the primary care group and healthy controls;
3. Disordered eating will be related to negative perceptions of parenting, most strongly amongst the anorexic group;
4. Disordered eating will be related to perfectionistic schemas, again most strongly amongst the anorexic group;

5. Negative parenting will be more predictive of disordered eating within the AN group than amongst control participants;
6. Perfectionistic schemas will be more predictive of disordered eating within the anorexic group than amongst control participants;
7. The relationship between parenting and disordered eating within the anorexic group will be mediated via perfectionistic schemas.

Hypothesis seven is illustrated in Figure 1.2. As shown, negative parenting and perfectionistic schemas will have independent relationships to eating psychopathology (Paths B and C). They will also be related to each other, i.e. when parenting is perceived as lacking in care and/or overly controlling, perfectionistic schemas are likely to exist (Path A). When negative parenting and perfectionism co-exist, their effects will combine to further raise the likelihood of disordered eating. This is illustrated below by a weakened association for Path C, since parenting will exert its influence primarily through perfectionism.

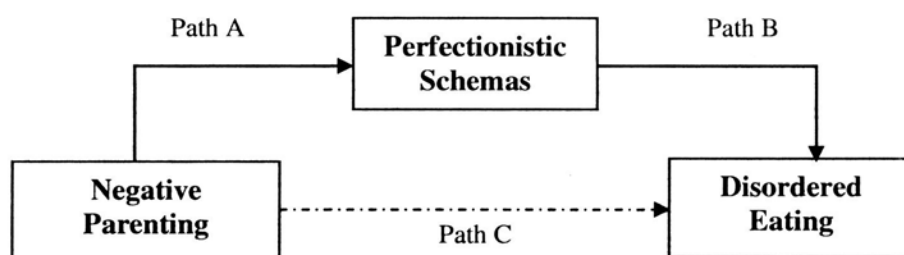


Figure 1.2: The mediational hypothesis

CHAPTER 2: METHOD

2.1 Design

This study employed a quantitative cross-sectional design, examining the relationship between three primary variables: 1) disordered eating (dependent variable); 2) perceived parenting (independent variable); and 3) perfectionistic schemas (independent variable). Between group differences for each of these variables were analysed, as were the correlational patterns within each group of participants.

2.2 Participants

A total of 162 participants were recruited, comprising three separate groups.

1) AN group: Females currently receiving treatment for anorexia nervosa (AN) were identified from a specialist inpatient eating disorders unit at The Priory Hospital, Glasgow and also from a specialist outpatient eating disorders service operating within NHS Tayside's Psychological Therapies Service. The inpatients were invited to participate by an appropriately trained staff member as part of ongoing collaborative research between The Priory and NHS Tayside. Outpatients were approached by their allocated psychologist. All eating disordered patients had been assessed against DSM-IV (APA, 1994) criteria for AN:

- refusal to maintain body weight at or above a minimally normal weight for age and height (i.e. weight is less than 85 per cent of that expected);
- intense fear of gaining weight;
- disturbance in the way one's body weight or shape is experienced;
- in postmenarcheal women, amenorrhoea (i.e. the absence of at least three consecutive menstrual cycles).

All AN participants had met these criteria at the time of their initial assessment. At the time of their participation in this study however, fifteen individuals no longer met the first criterion above since their BMI had increased to above the 17.5 cut-off for AN. This reflects the varying degrees of illness and stages of treatment within this sample. Strictly speaking, these females would be diagnosed with EDNOS. However, as they appeared to

be no other difference in terms of their overall presentation and, as they still met all other diagnostic criteria, it made sense to amalgamate them with the other AN individuals whose BMI fell within the anorexic range.³ Also, it has been stated that BMI by itself should not be used to distinguish AN from atypical forms, since an individual with a BMI in the healthy range may be more disordered in terms of their anorexic symptomatology than an individual with a lower BMI (Button & Whitehouse, 1981). Some AN participants reported regular menstruation even though maintaining a low weight and so again did not meet full criteria for AN. It is possible that contraception may have disguised the extent of hormonal imbalance amongst these individuals (i.e. they may have otherwise met criteria for amenorrhoea). As information concerning contraception was not gathered, the numbers of 'possibly amenorrhoeic' individuals cannot be ascertained.⁴

Comorbidity was not screened, but clinical impression indicated a fairly high level of comorbid symptoms. The Core Outcomes in Routine Evaluation (CORE; Evans et al, 2000) was available for 18 AN patients, which confirmed this general impression (mean overall score 2.16). High levels of comorbidity are common amongst those with AN, especially in terms of depression and anxiety (e.g. Bizeul, Brun & Rigaud, 2003), and therefore this eating disordered group constitutes an authentic sample of individuals with a primary diagnosis of AN.

The following exclusion criteria were applied: male, under 18 years of age or over 65, primary diagnosis of another eating disorder, psychosis, actively suicidal, or currently detained under a compulsory treatment order. Two inpatients were deemed too ill (i.e. dangerously malnourished) to take part, one was receiving treatment for bulimia nervosa, and one was undergoing methadone treatment. These individuals were therefore not invited to participate. Of the 52 individuals approached, 42 agreed to participate, representing a response rate of 81 per cent. Two respondents were male and were therefore excluded. This left a total of 40 AN females in this group, comprising 28 inpatients and 12 outpatients.

³ A separate sub-analysis will be detailed in the Results section.

⁴ Since this information was available for only two participants, these individuals were not analysed separately. As with the EDNOS individuals, they were amalgamated within the AN group, having previously met full criteria for AN.

2) Primary Care group: Females undergoing psychological treatment for depression and/or anxiety were approached by their allocated psychologist working within a primary care setting of NHS Tayside's Psychological Therapies Service (Adult Mental Health). Since depression and anxiety are found to be high amongst those with anorexia, the inclusion of depressed/anxious individuals without an eating disorder seemed an appropriate comparison group. Including such a group would allow for examination of the variables associated with AN psychopathology over and above any effects of depression/anxiety. The following exclusion criteria were applied: male, under 18 years of age or over 65, psychosis, actively suicidal, and previous or current input from services for concerns over eating. Of the 134 questionnaire packs distributed (see Procedure, p.35), 47 were returned, representing a response rate of 35 per cent. Of these, three had previously received professional help for disturbed eating and were therefore excluded, leaving a total of 44 depressed/anxious females in this group.

3) Student group: Students currently enrolled in an undergraduate psychology degree at the University of Stirling were invited to participate by their relevant course organiser and were given course credits for their participation. This group comprised the 'healthy' controls. Exclusion criteria were: male, under 18 years of age or over 65, and previous or current input from services for concerns over eating or depression/anxiety. Of the 151 packs distributed, 113 were returned (response rate 75%), of which 31 were male and were therefore excluded. A further four were excluded on the basis of current eating concerns ($N = 1$) and depression/anxiety ($N = 3$). This left a total of 78 female students in this group.

2.3 Measures

Each measure was chosen to specifically assess the variables under scrutiny. All have good psychometric properties and have been used with both clinical and non-clinical populations.

1) The Eating Disorders Examination (EDE; Fairburn & Cooper, 1993): The EDE is a semi-structured investigator-based interview that is generally regarded as the 'gold standard' instrument for measuring eating disordered attitudes and behaviours. A global score and four separate subscale scores may be derived, relating to: 1) Restraint (the extent to which food is restricted or avoided); 2) Eating Concern (the degree to which one is

preoccupied with their food intake); 3) Shape Concern (the level of dissatisfaction regarding one's body shape); and 4) Weight Concern (the extent to which a person is focused on their weight). Based on the preceding 28 days, responses are made on a 7-point Likert scale, ranging from '0' ('not at all') to '6' ('markedly'), with higher scores indicating greater eating pathology. Each subscale score is calculated by summing relevant items and dividing by the number of items in each subscale to give a mean score, with a maximum score of 6 and a minimum of zero. The global score is calculated by summing the raw scores and dividing by the number of subscales (i.e. four). The maximum global score is 34.5 and the minimum is zero. There are also sections enquiring about bingeing and purging behaviour, which are designed to elicit both subjective and objective binge/purge episodes, but which are not included in global or subscale scores.

The EDE has high internal consistency, with Cronbach's alpha ranging from .68 to .90 (Beumont, Kopec-Schrader & Talbot, 1994) and inter-rater reliability coefficients above .95 (Black & Wilson, 1996). It also discriminates well between different types of eating disorder (Beumont, Kopec-Schrader & Touyz, 1995). The EDE was developed around DSM-IV criteria and, as such, may be used as a diagnostic tool.

The EDE was already in place as part of the admissions procedure for AN inpatients and was re-administered every few months to those opting in to the wider body of research being conducted at The Priory Hospital. Therefore, it was easily incorporated as the measure of disordered eating for these participants. However, it is lengthy and requires specialist training to administer.⁵

2) The Eating Disorders Examination – Questionnaire (EDE-Q; Fairburn & Beglin, 1994): The EDE-Q is a shorter self-report version of the EDE, comprising 36 items from which a global score and the same four subscale scores are calculated. It also incorporates a 7-point Likert scale, focusing on the previous four weeks, and is scored in the same way as the EDE. The measure also includes items covering specific behaviours and, again, these are not included in global or subscale scores.

The EDE-Q has sound psychometric properties, on a par with that found for the EDE (e.g. Binford, Le Grange & Jellar, 2005). Test-retest reliability coefficients for subscales range

⁵ Due to the size of this interview schedule (14 pages), it has not been included as an Appendix. However, the shorter self-report has been included (see the EDE-Q above).

from .81 to .94 and Cronbach alphas range from .78 to .93 (Luce & Crowther, 1999). It also shows high correlations with all subscales of the EDE ($r = .71$ to $.90$), although the EDE tends to capture more bulimic pathology (Binford et al, 2005). (See Appendix I.)

The main advantage of the EDE-Q over the EDE is its brevity, making it less onerous for participants to complete and more time effective in clinical research. This measure was therefore administered to AN outpatients, primary care patients, and student controls. The EDE-Q is not a diagnostic instrument in its own right, but is used in research and clinical practice as a diagnostic indicator for both AN and BN. Currently, there is no widely established clinical cut-off on this measure. Fairburn and Beglin (1994) suggest a mean score of '4' or greater on any of the subscales (for both interview and questionnaire forms) would be indicative of a clinical level of eating psychopathology. Alternatively, Mond, Hay, Rodgers, Owen and Beumont (2004) found good predictive power when applying a mean subscale score of 2.3 in their validation study of a community sample of women.⁶

3) The Parental Bonding Instrument – Short Form (PBI-S; Pedersen, 1994): The PBI-S is a 10-item questionnaire designed to assess perceptions of an individual's bond to their parents (or parental figure) during the first 16 years of their life. It was developed from the original 25-item version (PBI; Parker et al, 1979) and retains the same factor structure with two primary bipolar dimensions: 1) care versus neglect; and 2) overprotection/control versus encouragement of autonomy. From these two dimensions, four types of parenting may be elucidated: 1) 'optimal parenting', characterised by high care and low control; 2) 'affectionate constraint', high care and high control; 3) 'affectionless control', low care and high control; and 4) 'neglectful parenting', low care and low control. Of these, 'affectionless control' is considered the most detrimental parenting type. A 4-point Likert scale from '0' to '3' is used, from 'strongly agree' to 'strongly disagree' with some items reverse scored. The minimum possible score on both the care and control dimensions is zero and the maximum is 15, with higher scores indicating greater care and greater control. The measure is completed for mothers and fathers separately, so that four separate scores are obtained: Maternal Care, Maternal Control, Paternal Care, and Paternal Control.

The psychometric characteristics of the PBI-S are sound, with Cronbach alphas ranging from .69 to .78 and test-retest reliability coefficients greater than .95 (Pedersen, 1994). The

⁶ Both approaches were used in respect of the data in this study and the overall outcome did not differ, with each approach categorising roughly equivalent percentages of 'cases' versus 'non-cases'.

short form has been used less widely than the longer version, but has been validated amongst adolescent and adult samples from community and forensic settings (e.g. Pedersen, 1994; Chambers, Power, Loucks & Swanson, 2001). (See the blank version in Appendix II.)

4) The Young Schema Questionnaire – Short Form (YSQ-S; Young, 1998): The YSQ-S is a 75-item version of the longer 205-item form (YSQ; Young, 1990, 1994) and has 15 subscales of the 16 covered in the original form. These subscales covering the following maladaptive schemas (see Introduction, p.20): Emotional Deprivation, Abandonment, Mistrust and Abuse, Social Isolation, Defectiveness, Failure, Dependence, Vulnerability, Enmeshment, Subjugation, Self-Sacrifice, Emotional Inhibition, Unrelenting Standards, Entitlement, and Insufficient Self-Control. A 6-point Likert scale is used from '1' ('completely untrue of me') to '6' ('describes me perfectly'). For scoring purposes, only items endorsed '4' to '6' are deemed suggestive of a particular schema, with higher scores indicating the schema is operating to a greater degree. There are five items for each subscale, with the a maximum score of 30 and a minimum of zero.

Again, this measure has good psychometric properties and correlates highly with the original version ($r > .84$, $p < .001$ for all 15 scales) (Waller, Meyer & Ohanian, 2001). Cronbach alphas range from .94 to .96 (Baranoff, Oei, Cho & Kwon, 2006) showing a high level of internal consistency, and test-retest coefficients from .50 to .82 (Schmidt, Joiner, Young & Telch, 1995) indicating adequate reliability. (See Appendix III.)

5) Demographics: Information was also gathered in respect of age, sex, approximate height and weight, marital status, and whether help had ever been sought for difficulties with eating or depression/anxiety. A separate demographic sheet was attached to the primary measures above. (See Appendix IV).

2.4 Procedure

Once a participant agreed to participate, a questionnaire pack was handed out. Each pack comprised the following:

- a covering letter briefly introducing the study (see Appendix V);
- an information sheet of which there were three separate versions: one for each group (see Appendix VI);
- a consent form of which there were two versions: one for eating disordered and one for non-eating disordered participants (see Appendix VII);
- a letter confirming where the study was taking place (see Appendix VIII);
- the demographic sheet;
- the EDE-Q or EDE (depending on whether AN outpatient or inpatients);
- the PBI-S;
- the YSQ-S;
- two freepost envelopes.

Participants were given the choice to take the pack away and fill it out in their own time or to complete it onsite (health or university setting), where help would be on hand. Further available help was detailed on the information sheet. All inpatients completed their packs onsite and returned them and their consent form in sealed envelopes via their individual therapist. Most primary care participants completed their packs at home, with a minority filling them out in the waiting area or during their session. They then handed their sealed responses and consent to their psychologist or the department secretary. Student participants collected packs from the undergraduate secretary and returned them with their consent form (again, both sealed) to the department secretary to obtain course credit. Participants were encouraged to discuss any difficult feelings that arose from their participation with their therapist or, in the case of students, their counselling service, GP, or director of studies. They were also provided with this trainee's work details, whereby further information and advice could be obtained.

The covering letter asked participants to read the information sheet before filling out the questionnaires, and they were encouraged to ask questions or raise concerns before agreeing to take part. The information sheet provided the background to the study, what participation would entail, the voluntary and confidential nature of their involvement, where

sponsorship and ethical approval for the study had come from, the procedure for raising a complaint, relevant contact details, and other useful sources of information. They were instructed to return only their completed pack of questionnaires and their signed consent form, retaining the rest of their pack for future reference. Freepost envelopes allowed respondents to return their questionnaires and their consent separately, ensuring the anonymity of their responses. Both were stored separately and held securely within NHS Tayside. Only a handwritten alphanumerical code on the top right hand corner of the questionnaire pack and consent form allowed responses to be matched to any one individual. This would only happen when a participant wanted to withdraw from the study, having already returned her completed questionnaires and consent form. Her data would then be pulled and immediately destroyed. No participant who initially gave consent later withdrew from the study. The corresponding consent forms for completed questionnaire packs were all returned.

2.5 Ethics

This study was favourably approved on the basis of the above design and procedure through NHS Tayside's Central Ethics Committee. One procedural recommendation was to allow non-eating disordered participants a way of knowing whether their score on the EDE-Q fell within the range suggestive of an eating disorder (i.e. any subscale score greater than 4). Information from the EDE was shared routinely with the eating disordered participants as part of their assessment and ongoing treatment. Hence, a separate consent form for primary care and student participants was created that asked them to indicate whether they would like to know this information, and to provide their preferred means of contact for this. Eight primary care participants and 21 students requested this information.⁷ Most were contacted by post or by email, two primary care participants received in-session feedback, and two students were telephoned. The information provided followed the form shown in Appendix IX.

⁷ A total of 15 primary care and 29 students obtained at least one EDE subscale score > 4. However, mean subscale scores did not fall within the clinical range. When examining individual responses, only one student met diagnostic criteria for BN. This participant had already been excluded due to current contact with services for problems with eating.

One other ethical issue pertained to the indication of time that had originally been included on the information sheet. Ethical guidelines state that participants should be given an estimate of the time involved in participating and this had been approximated (through consultation with colleagues) at around half an hour. However, the Ethics Committee suggested that some participants may feel inadequate if it took them longer than this to complete the pack and so this information was removed from the final versions (as shown in Appendix VI).

NHS Tayside's Research and Development department also approved this study. Ethical approval was also obtained from the Ethics Committee within the psychology department at the University of Stirling and was further approved by The Priory Hospital. (All relevant correspondence is provided in Appendix X.)

2.6 Power

Cohen (1992) outlines the sample size necessary to detect small, medium and large effects at power of .80 (i.e. an 80% probability of detecting an effect). In terms of between group differences involving three independent means, Cohen recommends a sample size of 32 in each group to detect a medium effect at the .05 alpha level and 44 in each group at an alpha level of .01. As there were at least 40 in each group, this study had sufficient statistical power to detect a medium effect size at the .05 to .01 alpha level when examining differences between groups.

Kline (1998) recommends a group sample of between 30 and 60 participants when examining three variables by means of path analysis. However, only with the EDE (both versions) can an overall score be derived and, therefore, each scale within the PBI-S and YSQ-S represents a separate variable. Again, Cohen (1992) provides guidance in terms of the sample size necessary to detect an effect when examining multiple variables. In order to detect a large degree of association at an alpha level of .05, a sample size of 50 would be required for each group. This rises to over 100 in terms of the power necessary to uncover a medium sized effect. Therefore, in terms of relationships between variables, the number of

participants in the AN and primary care groups meant that correlation and regression analyses would lack statistical power.⁸

2.7 Analysis

Body Mass Index (BMI) was calculated using the standard formula of weight (in kilograms) divided by height (in metres squared). Once all three measures and the demographic information had been scored, data were entered into SPSS (Version 12.0) for Windows. The vast majority of participants responded to all items, but where an item had been left blank, two approaches were adopted depending on the advice offered by the authors of each measure. For the EDE, only completed items were used to calculate the mean. For the PBI and YSQ, the mean score of completed items on each scale was used to score the missing item.

Between group differences were examined by way of Analysis of Variance (or Kruskal-Wallis where data were not normally distributed). Relationships between variables were explored by Pearson's correlation (or Spearman's rho where data were not normally distributed). Regression analysis was employed to uncover variables predictive of disordered eating. Finally, path analysis was carried out to test for mediating relationships, involving a series of stepwise regressions and following the method recommended by Baron and Kenny (1986).⁹

⁸ This was borne in mind when analysing data and will be discussed more fully in the Discussion section when results will be interpreted.

⁹ Baron & Kenny's method will be discussed more fully in the Results section (p.58).

CHAPTER 3: RESULTS

3.1 Exploratory Data Analysis

Data within each group were first analysed by way of boxplots and histograms to check for outliers and to examine the distribution of scores for each variable. Within each of the three groups, the EDE¹⁰ and PBI did not appear overly skewed. This was confirmed by checking both skewness and kurtosis against their standard errors, whereby values lower than 1.96 were taken to represent a normal distribution. The one exception to this related to the PBI within the student group, with the Maternal Care dimension showing significant positive skew (3.73, $p < .001$). Regarding the YSQ, several subscales also showed significant positive skew and kurtosis ('platykurtic', i.e. a flattened distribution of scores) within each group. Rather than remove the few outliers (relating mainly to controls), a more robust method is to transform the data (e.g. Field, 2005) so that the spread of scores becomes more akin to a normal distribution. A number of transformations were carried out (e.g. $\log_{10} + 1$, square root), but this did not lead to an overall improvement in terms of the distribution of all variables, with some actually resulting in greater skew and/or kurtosis. As there seemed no justification for removing outliers in terms of YSQ or PBI scores, analyses were conducted on the raw data. This has implications for the types of statistical test one can apply (i.e. parametric versus non-parametric), since a primary assumption of parametric tests is that the data at least approximate the normal distribution. Hence, parametric tests were used for comparisons and correlations not involving the YSQ, and non-parametric equivalents were used when the YSQ was involved.

3.2 Examination of the AN Group

As the AN group comprised both inpatients and outpatients, covering a range of AN subtypes, an initial examination within the AN group was carried out to determine whether these subgroups were significantly different from each other.

¹⁰ Where 'EDE' is used in this section, it refers to both the interview and self-report formats. Where 'PBI' and 'YSQ' are used, these refer to the short forms of each measure.

Within the eating disordered group, *t* tests (two-tailed) revealed no significant differences between the outpatients and inpatients on either the EDE global or subscale scores. This suggests that it was appropriate to consider both outpatient and inpatient anorexics as one relatively homogenous group in terms of their eating disorder symptoms. This also lends support to the finding of high concordance rates between the EDE interview and questionnaire formats (e.g. Fairburn and Beglin, 1994). Also, inpatients did not differ from outpatients in terms of diagnostic type, age, BMI or marital status.

One-way ANOVAs were used to examine differences in variables across the diagnostic categories: AN restricting ($N = 15$), AN purging ($N = 10$), and EDNOS ($N = 15$). (See Table 3.1 on the following page.) BMI was the only demographic variable to significantly differ. Tukey's Honestly Significant Difference Test¹¹ was used for post hoc analysis, since it is deemed a conservative test when making multiple comparisons. Scheffe's test was considered, but it has been suggested (e.g. Dancey & Reidy, 2002) that this test is overly conservative when examining intercorrelated data with the associated risk of making a Type II error (i.e. stating the null hypothesis has been met when a difference does in fact exist). The significance level of .05 was divided by the number of post hoc comparisons made for each variable (i.e. three, representing each diagnostic category) and, hence, only differences less than .01 were deemed to represent a reliable difference. BMI was higher amongst EDNOS participants than those with purging and restricting AN.

With the exception of Restraint, significant differences were found for all EDE scores. Participants with restricting AN scored less on global EDE, Shape Concern, and Weight Concern than those with purging AN. EDNOS participants did not differ from the other diagnostic subgroups.

Those with EDNOS appeared to represent an intermediate category between restricting and purging AN subtypes in terms of severity of disordered eating. On each EDE subscale, their scores were approximately midway between the scores obtained in the other two diagnostic groups, with purging anorexics evidencing the greatest degree of eating psychopathology. Purging anorexics also endorsed the greatest number of disordered eating behaviours, which would be expected since relevant EDE items pertain to purgative means

¹¹ Tukey's HSD was applied for all subsequent post hoc comparisons involving parametric tests and, for non-parametric tests, the Mann Whitney test was applied. The required level of significance was .05 divided by the number of comparisons made.

of weight control. As participants diagnosed with EDNOS did not meet full criteria for AN (either restricting or purging) due only to their weight (i.e. their BMI was greater than the 17.5 cut-off), they appeared more similar than dissimilar to those falling within the anorexic BMI range. Also, their EDE scores did not differ significantly from those with restricting or purging AN. In addition, EDNOS participants had been underweight at some previous point and were still undergoing treatment for AN. Hence, it did not seem appropriate to differentiate EDNOS from the other diagnostic categories in subsequent analyses.

Table 3.1: Significant differences between diagnostic subgroups

	<i>df</i>	<i>F</i>	<i>p</i> value	Tukey's HSD
BMI	2, 37	22.42	< .001	EDNOS > ANr*** and ANp***
<u>EDE:</u>				
Global	2, 37	5.59	< .01	ANr < ANp**
Eating Concern	2, 37	4.85	< .05	NS
Shape Concern	2, 37	5.97	< .01	ANr < ANp**
Weight Concern	2, 37	6.37	< .01	ANr < ANp**
<u>YSQ:</u>				
Emotional Deprivation	2, 37	5.76	< .01	ANr > ANp**
Abandonment	2, 37	5.02	< .05	ANr > ANp**
Mistrust and Abuse	2, 37	3.67	< .05	NS
Social Isolation	2, 37	4.25	< .05	NS
Defectiveness	2, 37	7.91	< .01	ANr > ANp**
Dependence	2, 37	5.93	< .01	ANr > ANp**
Subjugation	2, 37	7.25	< .01	ANr > ANp**
Self-Sacrifice	2, 37	9.68	< .001	ANp > ANr*** and EDNOS*
Entitlement	2, 37	4.93	< .05	ANp > EDNOS**
Insufficient Self Control	2, 37	12.35	< .001	ANp > ANr*** and EDNOS*

ANr = restricting AN; ANp = purging AN; EDNOS = Eating Disorder Not Otherwise Specified

** $p < .01$; *** $p < .001$; NS = non-significant

In relation to the PBI, inpatient and outpatient anorexics did not differ on any dimension, nor did participants differ across diagnostic categories. In terms of the YSQ, inpatient anorexics showed significantly higher scores than outpatients on schemas of Abandonment [$t(38) = 3.56, p < .01$], Social Isolation [$t(38) = 2.11, p < .05$], Dependence [$t(38) = 2.39,$

$p < .05$], and Subjugation [$t(38) = 3.34, p < .01$]. Several significant differences were also uncovered between diagnostic subgroups on this measure (see Table 3.1), with the AN restricting subgroup scoring higher than the AN purging subgroup on Emotional Deprivation, Abandonment, Defectiveness, Dependence, and Subjugation. Those with purging AN scored higher than those with restricting AN and EDNOS on Self-Sacrifice and Insufficient Self-Control. Those with purging AN also scored higher on Entitlement than those with EDNOS.

Overall, the inpatient and outpatient eating disordered participants seemed more alike in terms of their responses across measures than they were disparate. Regarding the diagnostic subgroups, although they did not differ on the PBI, they did differ on most EDE and YSQ scales. However, as each group also differed significantly from controls in terms of their degree of disordered eating (with controls evidencing significantly less in all cases), it made sense to combine the subgroups into one AN group for subsequent analysis.

3.3 Overall Descriptives

Means, standard deviations, and ranges by group are provided in Table 3.2 (see next page). The exact number of participants relevant to each variable are also included. One primary care participant and one student did not report both their height and weight, and therefore BMI could not be calculated for these two participants. One AN participant did not complete the maternal PBI scale (no reason given) and two did not provide paternal information (no father figure present). Also, one primary care participant and one student gave no paternal information (again, because no father figure had been present during their upbringing). Figures 3.1 to 3.3 illustrate the group means for each variable (see pages 45 to 46).

In relation to the EDE, the overall subscale mean for the AN group fell within the extreme range of scores (i.e. > 4), whereas the mean for both control groups fell outwith the clinical range (i.e. < 2.3).¹² Regarding the behavioural items of the EDE (not included in calculation of scores), 60 per cent of the AN group reported at least one method of purging (e.g. self-induced vomiting) or episode of binge eating. The percentages in the primary care and student groups were 14 and 33 per cent respectively.

¹² The overall mean subscale scores for each group were: AN = 4.17; primary care = 1.75; students = 2.03 (calculated from Table 3.2, p43).

Table 3.2: Means, standard deviations (SD), and ranges for each group

	AN Group				Primary Care Group				Student Group			
	N	Mean	SD	Range	N	Mean	SD	Range	N	Mean	SD	Range
Age (in years)	40	29	10.31	18 – 62	44	37	12.14	18 – 62	78	20	5.05	18 – 48
BMI	40	17.28	3.02	10.80 – 25.00	43	28.03	8.71	18.01 – 42.11	77	23.27	4.03	16.89 – 41.98
<u>EDE:</u>												
Global	40	24.36	7.56	7.50 – 34.50	44	10.45	8.83	0.00 – 30.25	78	12.26	8.12	0.00 – 30.75
Restraint	40	4.04	1.36	0.00 – 6.00	44	1.44	1.64	0.00 – 5.00	78	1.52	1.34	0.00 – 5.20
Eating Concern	40	3.46	1.76	0.20 – 6.00	44	0.92	1.30	0.00 – 6.00	78	1.16	1.21	0.00 – 4.40
Shape Concern	40	4.83	1.57	1.50 – 6.00	44	2.54	2.10	0.00 – 6.00	78	2.92	1.75	0.00 – 6.00
Weight Concern	40	4.36	1.30	1.00 – 6.00	44	2.10	1.86	0.00 – 6.00	78	2.51	1.74	0.00 – 6.00
<u>PBI:</u>												
Maternal Care	39	8.69	3.85	0 – 15	44	9.18	4.69	0 – 15	78	11.10	3.25	2 – 15
Maternal Control	39	7.03	3.47	1 – 15	44	4.70	3.46	0 – 12	78	5.19	2.82	0 – 14
Paternal Care	38	6.50	3.74	0 – 15	43	8.84	4.09	0 – 15	77	9.10	2.85	0 – 15
Paternal Control	38	6.47	2.95	2 – 15	43	4.67	3.32	0 – 13	77	5.21	2.85	0 – 14

Table 3.2 (continued): Means, standard deviations (SD), and ranges for each group

	AN Group				Primary Care Group				Student Group			
	N	Mean	SD	Range	N	Mean	SD	Range	N	Mean	SD	Range
<u>YSQ:</u>												
E.D.	40	9.85	9.64	0 – 30	44	8.39	9.35	0 – 28	78	3.95	7.14	0 – 28
Ab.	40	13.30	11.67	0 – 30	44	9.75	11.11	0 – 30	78	6.97	9.70	0 – 30
M.A.	40	14.15	10.59	0 – 30	44	9.09	9.56	0 – 29	78	6.00	8.85	0 – 29
S.I.	40	15.38	11.50	0 – 30	44	9.20	10.06	0 – 30	78	4.14	8.11	0 – 30
Df.	40	15.23	11.49	0 – 30	44	7.30	10.60	0 – 30	78	7.21	6.90	0 – 30
Fa.	40	16.02	12.70	0 – 30	44	7.27	10.33	0 – 30	78	4.67	9.41	0 – 30
Dp.	40	10.07	9.91	0 – 30	44	3.70	6.22	0 – 23	78	3.76	6.07	0 – 27
Vu.	40	8.93	9.40	0 – 30	44	7.11	9.35	0 – 30	78	2.78	6.06	0 – 30
Enm.	40	5.70	7.22	0 – 26	44	2.98	7.37	0 – 26	78	1.82	4.85	0 – 28
Su.	40	14.00	10.79	0 – 30	44	7.52	8.95	0 – 28	78	3.38	6.15	0 – 25
S.S.	40	12.33	9.41	0 – 30	44	13.43	9.92	0 – 30	78	9.31	1.50	0 – 30
E.I.	40	10.30	10.41	0 – 30	44	5.64	7.88	0 – 24	78	3.77	6.23	0 – 25
U.S.	40	20.33	9.22	0 – 30	44	13.23	9.58	0 – 30	78	8.31	9.14	0 – 30
Ent.	40	5.80	7.80	0 – 30	44	3.70	5.02	0 – 19	78	4.94	6.64	0 – 28
I.S.	40	8.40	9.75	0 – 30	44	8.41	9.83	0 – 30	78	7.17	8.55	0 – 29

E.D. = Emotional deprivation, Ab. = Abandonment, M.A. = Mistrust and Abuse, S.I. = Social Isolation, Df. = Defectiveness, Fa. = Failure, Dp. = Dependence, Vu. = Vulnerability, Enm. = Enmeshment, Su = Subjugation, S.S. = Self-Sacrifice, E.I. = Emotional Inhibition, U.S. = Unrelenting Standards, Ent. = Entitlement, I.S. = Insufficient Self-Control

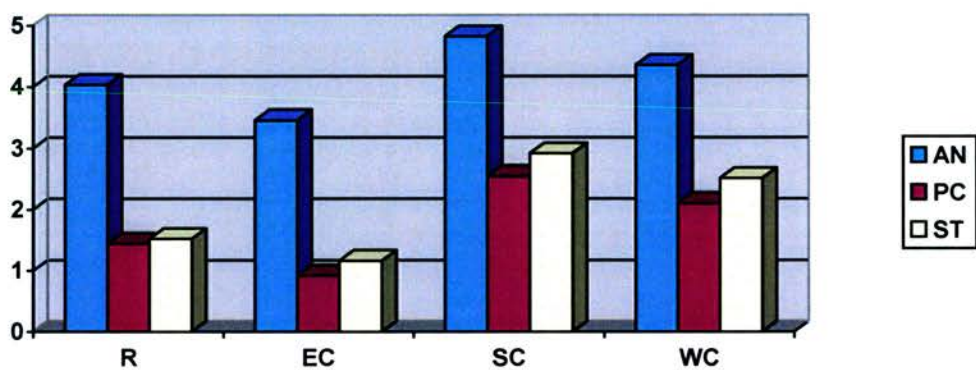
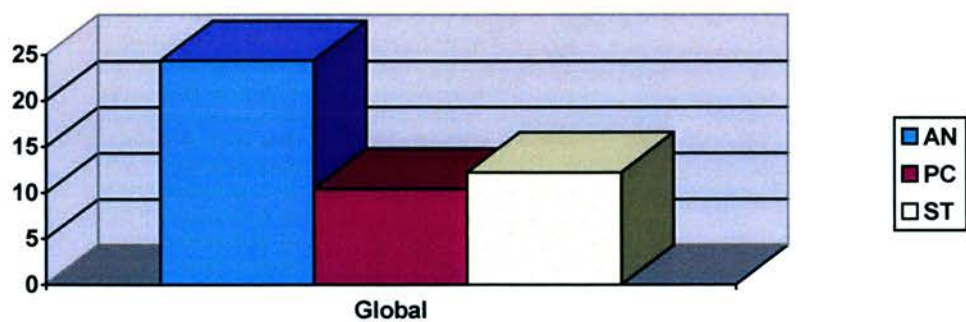


Figure 3.1: Mean EDE scores by group

AN = AN group; PC = primary care group; ST = student group

R = Restrict; EC = Eating Concern; SC = Shape Concern; WC = Weight Concern

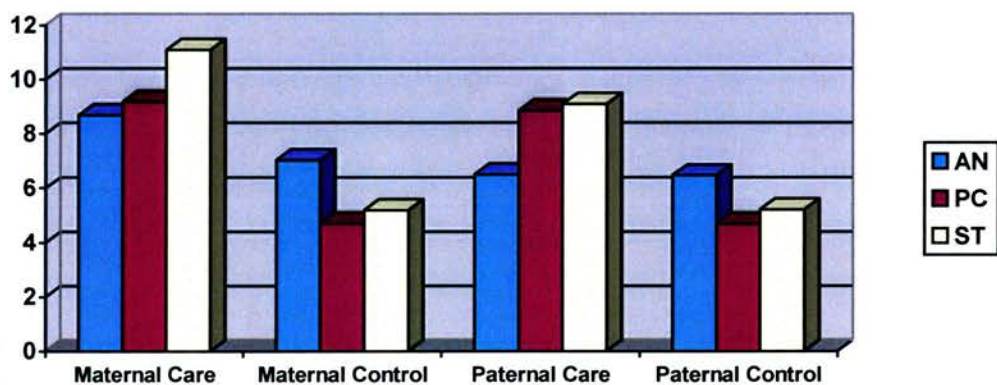


Figure 3.2: Mean PBI scores by group

AN = AN group; PC = primary care group; ST – student group

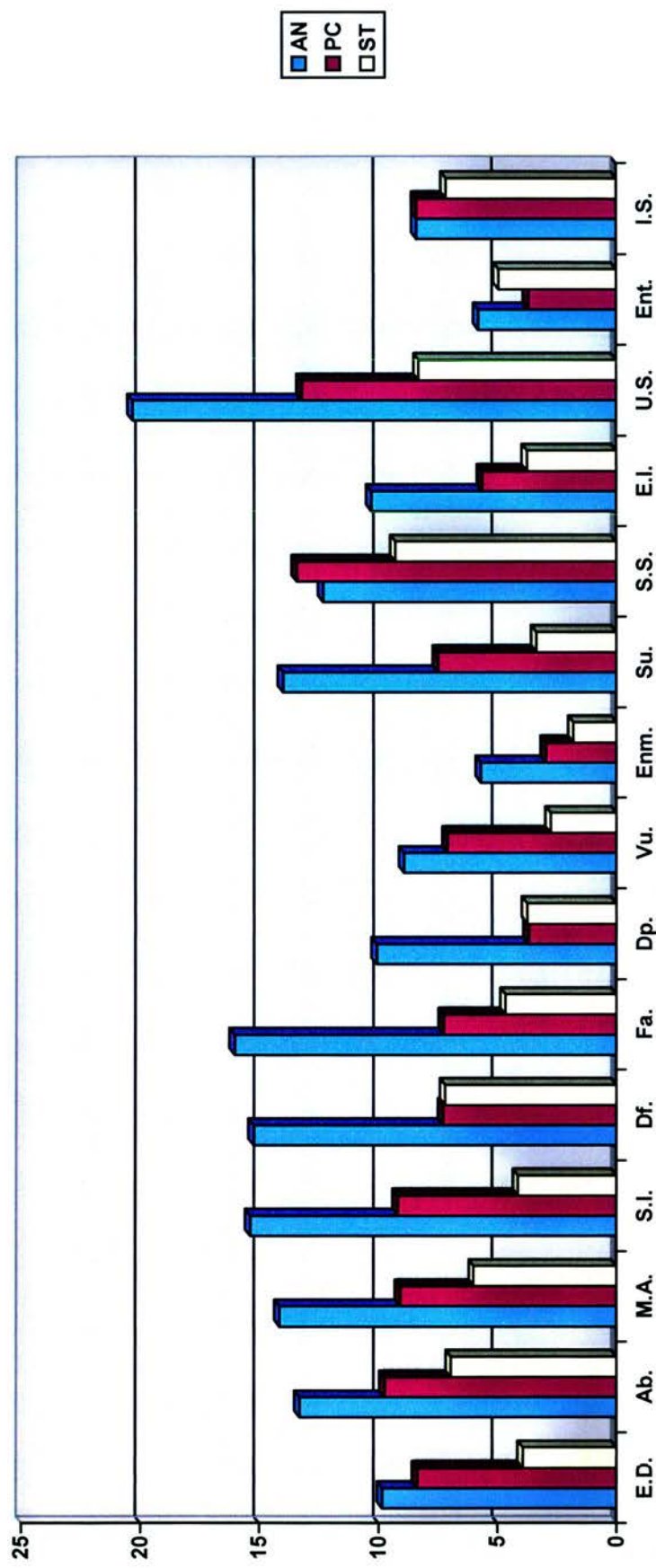


Figure 3.3: Mean YSQ scores by group

AN = AN group; PC = primary care group; ST = student group
 E.D. = Emotional deprivation, Ab. = Abandonment, M.A. = Mistrust and Abuse, S.I. = Social Isolation, Df. = Defectiveness, Fa. = Failure, Dp. = Dependence, Vu. = Vulnerability, Enm. = Enmeshment, Su = Subjugation, S.S. = Self-Sacrifice, E.I. = Emotional Inhibition, U.S. = Unrelenting Standards, Ent. = Entitlement, I.S. = Insufficient Self-Control

3.4 Between Group Analysis

Significant results are provided in Table 3.3 (see next page). One-way ANOVAs were carried out in relation to all measures, except the YSQ where a Kruskal-Wallis test was used.

Demographics: There were significant between group differences in relation to age and BMI. All post hoc comparisons were highly significant ($p < .001$) and were associated with medium to large effect sizes ($r = .30$ to $.65$). The AN participants weighed less than both groups of control participants, and the students weighed less than primary care participants. The AN participants were younger than primary care participants and older than students. Regarding marital status, most of the AN participants (65%) and students (81%) were single, and almost half the primary care participants were married (46%). Chi-squared test revealed significant group differences in terms of the observed and expected frequencies for each marital category [$X^2 (10) = 53.53, p < .001$]. The fact that a large proportion of the student group were single probably reflects the fact they were significantly younger than AN and primary care participants.

EDE: Significant between group differences were found on all EDE subscales including the global score, with AN participants scoring higher than the primary care and student controls. These differences were associated with large effect sizes ($r = .53$ to $.67$). The AN group also endorsed a significantly greater number of disordered eating behaviours than controls [$F (2, 159) = 16.50, p < .001$]. There were no significant differences between the primary care and student groups in relation to any EDE score.

Hypothesis 1: The anorexic group will harbour more negative perceptions of their parents (i.e. low care/high control) than both the primary care comparison group and healthy controls

PBI: Significant between group differences also emerged on the PBI across all dimensions. However, the Paternal Control difference fell short of the required level of significance (.01) in terms of post hoc comparisons. The AN group reported less Maternal and Paternal Care than students, and a greater degree of Maternal Control than the primary care group.

The primary care and student groups did not differ significantly on any PBI scale. These differences were associated with weak to moderate effect sizes ($r = .29$ to $.32$).

Table 3.3: Significant differences between groups

	<i>df</i>	<i>F</i>	<i>p</i> value	Tukey's HSD
Age	2, 159	48.77	< .001	ST < AN** < PC**
BMI	2, 157	39.43	< .001	AN < ST** < PC**
<u>EDE:</u>				
Global	2, 159	37.21	< .001	AN > PC** and ST**
Restraint	2, 159	41.63	< .001	AN > PC** and ST**
Eating Concern	2, 159	48.49	< .001	AN > PC** and ST**
Shape Concern	2, 159	21.26	< .001	AN > PC** and ST**
Weight Concern	2, 159	20.37	< .001	AN > PC** and ST**
<u>PBI:</u>				
Maternal Care	2, 158	6.50	< .01	AN < ST*
Maternal Control	2, 158	6.28	< .01	AN > PC*
Paternal Care	2, 155	5.55	< .01	AN < ST*
Paternal Control	2, 155	3.82	< .05	NS ($p > .01$)
	<i>df</i>	<i>H</i>	<i>p</i> value	Mann-Whitney
<u>YSQ:</u>				
Emotional Deprivation	2	19.73	< .001	NS ($p > .01$)
Abandonment	2	8.89	< .05	NS ($p > .01$)
Mistrust and Abuse	2	18.87	< .001	AN > ST*
Social Isolation	2	29.38	< .001	AN > ST*
Defectiveness	2	31.71	< .001	AN > PC* and ST**
Failure	2	29.97	< .001	AN > PC* and ST**
Dependence	2	16.00	< .001	AN > PC* and ST*
Vulnerability	2	18.61	< .001	ST < AN* and PC*
Enmeshment	2	15.32	< .01	PC > ST*
Subjugation	2	33.87	< .001	AN > PC* and ST**
Emotional Inhibition	2	15.38	< .001	AN > ST*
Unrelenting Standards	2	34.26	< .001	AN > PC* and ST**

AN = AN group; PC = primary care group; ST = student group

* $p < .01$; ** $p < .001$; NS = non-significant

***Hypothesis 2:** Perfectionistic schemas (i.e. 'defectiveness', 'failure', and 'unrelenting standards') will be more prevalent amongst the anorexic group than amongst the primary care group and healthy controls*

YSQ: A number of significant differences were found on the YSQ, with students showing generally less maladaptive schemas than both AN and primary care participants. The AN group had significantly higher scores than both primary care and student participants on schemas of Defectiveness, Failure, Dependence, Subjugation, and Unrelenting Standards. The size of the effect between AN and student participants tended to be larger ($r = .27$ to $.52$) than was the case between AN and primary care participants ($r = .24$ to $.37$). Three schemas, Self-Sacrifice, Entitlement, and Insufficient Self-Control, showed no significant differences between groups, and the alpha values relating to Emotional Deprivation and Abandonment were greater than .01.

3.5 Correlations

Where variables met the assumption of normality, Pearson's product moment correlation coefficient (r_p) was chosen to investigate relationships within groups. Where correlations involved the YSQ, Spearman's rho (r_{sp}) was used, since this measure was associated with significant skew and kurtosis. One-tailed correlational tests were employed, since predictions were made within each of the hypotheses.

***Hypothesis 3:** Disordered eating will be most strongly related to negative perceptions of parenting amongst the AN group and*

***Hypothesis 4:** Disordered eating will be most strongly related to perfectionistic schemas amongst the AN group*

Within the AN group (see Table 3.4)

EDE and PBI: Maternal Care was significantly correlated with global EDE, Restraint, and Weight Concern, and Paternal Care was correlated with Shape Concern. All correlations were negative, weak and significant at the .05 level. The other two PBI dimensions did not correlate significantly with any EDE score.

Table 3.4: Significant correlations with the EDE for the AN group

	EDE				
	Global	Restraint	Eating Concern	Shape Concern	Weight Concern
PBI^a					
Maternal Care	-.32*	-.37*	-	-	-.36*
Maternal Control	-	-	-	-	-
Paternal Care	-	-	-	-.29*	-
Paternal Control	-	-	-	-	-
YSQ^b					
Emotional Deprivation	.43**	.39**	.45**	.41**	.40**
Abandonment	.36*	.30*	.27*	.48**	.37**
Mistrust and Abuse	.40**	-	.27*	.53***	.53***
Social Isolation	.31*	-	.27*	.41**	.42**
Defectiveness	.43**	-	.32*	.50***	.41**
Failure	.50***	.31*	-	.66***	.54***
Dependence	.28*	-	-	.34*	.29*
Vulnerability	.32*	-	-	.40**	.36*
Enmeshment	-	-	-	.27*	-
Subjugation	.40**	-	-	.45**	.43**
Self-Sacrifice	.52***	-	.34*	.60***	.55***
Emotional Inhibition	.32*	-	-	.41**	.33*
Unrelenting Standards	.40**	-	.46**	.43**	.47**
Entitlement	-	-	.35*	-	-
Insufficient Self-Control	.37**	-	.39**	.48**	.36*

^a Pearson's correlations^b Spearman's correlations* $p < .05$; ** $p < .01$; *** $p < .001$

EDE and YSQ: Most schemas correlated significantly with global EDE, with the exception of Enmeshment and Entitlement. Failure and Self-Sacrifice showed the greatest degree of association, with moderate correlation coefficients ($r > .50$) at the .001 significance level. The only schemas to correlate with all EDE scores were Emotional Deprivation and Abandonment. The EDE subscales showing the least number of

associations with the YSQ were Restraint and Eating Concern. All correlations were positive.

PBI and YSQ: There were a few significant correlations between the PBI and YSQ. Maternal Care correlated with Emotional Deprivation and Entitlement. Interestingly, this latter correlation was positive, indicating that as Maternal Care scores increase so do scores on the Entitlement schema. Maternal Control positively correlated with Emotional Deprivation and Abandonment. Unrelenting Standards was negatively correlated with Paternal Care and positively with Paternal Control (see Table 3.7, p.55).

Partial Correlations: As the EDE correlated with the PBI and YSQ, which were also both intercorrelated, simple tests of mediation were conducted by way of partial correlations (one-tailed). If the correlations between parenting and disordered eating lost significance when partialling out the effects of schemas, this would suggest that schemas mediate the relationship between parenting and disordered eating. Only those schemas showing a significant relationship with the EDE and the PBI were controlled in each partial correlation. The relationship between Maternal Care and EDE (global, Restraint and Weight Concern) was no longer significant when controlling for Emotional Deprivation, and the relationship between Paternal Care and Shape Concern was no longer significant when controlling for Unrelenting Standards. This suggests that Emotional Deprivation and Unrelenting Standards may play a mediating role in the relationship between dimensions of parenting and disordered eating.

Within the primary care group (see Table 3.5)

EDE and PBI: Maternal Care was negatively correlated with all EDE scores and Paternal Control was positively correlated with Shape Concern.

EDE and YSQ: There were generally fewer associations found between schemas and disordered eating amongst the primary care group. Those that showed the strongest correlations were Emotional Deprivation, Mistrust and Abuse, Social Isolation, Subjugation, and Insufficient Self-Control.

Table 3.5: Significant correlations with the EDE for the primary care group

	EDE				
	Global	Restraint	Eating Concern	Shape Concern	Weight Concern
PBI^a					
Maternal Care	-.48**	-.32*	-.36**	-.48**	-.46**
Maternal Control	-	-	-	-	-
Paternal Care	-	-	-	-	-
Paternal Control	-	-	-	.29*	-
YSQ^b					
Emotional Deprivation	.54***	-	.48**	.57***	.57***
Abandonment	.31*	-	.28*	.26*	.33*
Mistrust and Abuse	.39**	-	.40**	.38**	.41**
Social Isolation	.46**	-	.36**	.49***	.44**
Defectiveness	.34*	-	.29*	.35*	.32*
Failure	.31*	-	.29*	.33*	-
Dependence	-	-	-	-	-
Vulnerability	.27*	-	-	.26*	-
Enmeshment	-	-	-	-	-
Subjugation	.38**	-	.37**	.42**	.38**
Self-Sacrifice	.33*	-	-	.26*	.37**
Emotional Inhibition	-	-	-	-	-
Unrelenting Standards	-	-	-	-	-
Entitlement	-	-	-	-	-
Insufficient Self-Control	.43**	-	.40**	.41**	.43**

^a Pearson's correlations^b Spearman's correlations* $p < .05$; ** $p < .01$; *** $p < .001$

PBI and YSQ: There were a number of significant correlations, indicating that these two measures were more strongly related amongst primary care participants than AN participants. An unexpected positive correlation was found between Maternal Care and Enmeshment, indicating that as Maternal Care scores increase so do Enmeshment scores.

Also, the greatest number of correlations related to the Paternal PBI dimensions (see Table 3.7, p.55).

Partial Correlations: All correlations between Maternal Care and EDE scores remained significant when controlling for the effects of Emotional Deprivation, Social Isolation, and Vulnerability. The correlation between Maternal Care and Eating Concern was no longer significant when controlling for Insufficient Self-Control, suggesting a mediating relationship. Regarding the relationship between Paternal Control and Shape Concern, a mediating relationship was suggested when partialling out the effects of Emotional Deprivation, Abandonment, Mistrust and Abuse, Social Isolation, Defectiveness, Failure, Subjugation, and Insufficient Self-Control.

Within the student group (see Table 3.6)

EDE and PBI: No significant correlations were uncovered between any EDE score and PBI dimension amongst this control group.

EDE and YSQ: A greater number of significant correlations were found within this group than within the primary care group, with the number of correlations, magnitude and significance being broadly similar to the pattern found in the AN group. The EDE global score showed significant positive correlations with Emotional Deprivation, Abandonment, Mistrust and Abuse, Social Isolation, Defectiveness, Failure, Dependence, Vulnerability, Enmeshment, Subjugation, and Emotional Inhibition. The schemas that showed the greatest number of associations were Abandonment, Failure, and Emotional Inhibition, being significantly correlated with all EDE scores.

PBI and YSQ: Within this group, the opposite pattern of correlations was found to that uncovered for the primary care group, with the greatest number of correlations relating to Maternal PBI dimensions (see Table 3.7, p.55).

No partial correlations were conducted, since parenting was not related to disordered eating within the student group.

Table 3.6: Significant correlations with the EDE for the student group

	EDE				
	Global	Restraint	Eating Concern	Shape Concern	Weight Concern
<u>PBI</u>^a					
Maternal Care	-	-	-	-	-
Maternal Control	-	-	-	-	-
Paternal Care	-	-	-	-	-
Paternal Control	-	-	-	-	-
<u>YSQ</u>^b					
Emotional Deprivation	.26*	-	.32**	.24*	.27**
Abandonment	.49***	.32**	.48***	.50***	.43***
Mistrust and Abuse	.37***	-	.36**	.38***	.36**
Social Isolation	-	-	.23*	-	-
Defectiveness	.27**	-	.32**	.26*	.30**
Failure	.39***	.20*	.43***	.38***	.36**
Dependence	.20*	-	-	-	.23*
Vulnerability	.28**	-	.26*	.30**	.30**
Enmeshment	.27**	-	.33**	.29**	.22*
Subjugation	.30**	-	.32**	.33**	.29**
Self-Sacrifice	-	-	-	-	-
Emotional Inhibition	.42***	.25*	.47***	.37***	.44***
Unrelenting Standards	-	-	-	-	-
Entitlement	-	-	.24*	.19*	-
Insufficient Self-Control	.26*	-	.25*	.24*	.22*

^a Pearson's correlations

^b Spearman's correlations

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 3.7: Significant correlations between the PBI and YSQ per group

	AN Group				Primary Care Group				Student Group			
	Maternal Care	Maternal Control	Paternal Care	Paternal Control	Maternal Care	Maternal Control	Paternal Care	Paternal Control	Maternal Care	Maternal Control	Paternal Care	Paternal Control
YSQ:												
E.D.	-.52***	.36*	-	-	-.31*	-	-.28*	.38**	-.52***	.23*	-.41***	-
Ab.	-	.31*	-	-	-	-	-.42**	.31*	-.27**	.19*	-	-
M.A.	-	-	-	-	-	.37**	-.51***	.35*	-.34**	.30**	-.31**	-
S.I.	-	-	-	-	-.26*	.42**	-.38**	.41**	-.22*	-	-.26*	-
Df.	-	-	-	-	-	-	-.51***	.32*	-.25*	.25*	-.21*	.27*
Fa.	-	-	-	-	-	-	-.37**	.46**	-.23*	-	-	-
Dp.	-	-	-	-	-	-	-	-	-.35**	-	-.24*	-
Vu.	-	-	-	-	-.26*	.35*	-.26*	-	-.37**	.20*	-	.33**
Enm.	-	-	-	-	.26*	-	-	-	-	.22*	-	-
Su.	-	-	-	-	-	-	-.37**	.27*	-.28**	.20*	-	-
S.S.	-	-	-	-	-	-	-	-	-.19*	.27**	-	-
E.I.	-	-	-	-	-	-	-	-	-.26*	.25***	-	-
U.S.	-	-	-.30*	.27*	-	-	-	.28*	-.21*	.31**	-	-
Ent.	.29*	-	-	-	-.43**	-	-.30*	-	-.40***	.32**	-	-
I.S.	-	-	-	-	-.47**	.49***	-	.41**	-.29**	-	-	-

* $p < .05$; ** $p < .01$; *** $p < .001$

3.6 Variables Predictive of Disordered Eating

Multiple regression was used to examine which variables were most predictive of disordered eating in each of the three groups.¹³ Variables significantly correlated with each EDE score were entered in the respective models. This followed a forced entry method, whereby all potential predictors were entered simultaneously. Only the regression models found to be significant will be reported here.

***Hypothesis 5:** Negative parenting will be more predictive of disordered eating within the AN group than amongst control groups*

***Hypothesis 6:** Perfectionistic schemas will be more predictive of disordered eating within the AN group than amongst controls groups*

Within the AN group (see Table 3.8)

With EDE global as the dependent variable (DV), Emotional Deprivation, Mistrust and Abuse, and Failure emerged as the only significant predictors in the regression model. These schemas explained 41 per cent of the variance (adjusted R^2) in global eating scores. Although Maternal Care was entered as an independent variable in this model, it did not prove predictive of global EDE scores. When Shape Concern was entered as the DV, Emotional Deprivation and also Failure were predictive, explaining 51 per cent of the variance in Shape Concern scores. Although Paternal Care was entered as an independent variable in this model, it did not prove predictive of Shape Concern scores. With Weight Concern as the DV, Emotional Deprivation, Social Isolation, Failure, and Unrelenting Standards all significantly predicted Weight Concern scores. This model accounted for 54 per cent of the variance in Weight Concern scores. Maternal Care was not a significant predictor in this model.

¹³ It is noted that this part of the analysis lacked statistical power in relation to the AN and primary care groups.

Table 3.8: Predictors of disordered eating within the AN group

	<i>B</i>	<i>SE B</i>	<i>β</i>
Global EDE:			
Constant	13.236	4.664	
Emotional Deprivation	.504	.206	.636*
Mistrust and Abuse	-.369	.175	-.517*
Failure	.596	.170	.989**
Shape Concern:			
Constant	2.773	.625	
Emotional Deprivation	.068	.028	.497*
Failure	.131	.029	1.258**
Weight Concern:			
Constant	1.931	.886	
Emotional Deprivation	.106	.039	.624*
Social Isolation	.071	.029	.500*
Failure	.141	.032	1.093***
Unrelenting Standards	.059	.025	.325*

* $p < .05$; ** $p < .01$; *** $p < .001$

Within the primary care group (see Table 3.9)

When global EDE was entered as the DV, Maternal Care proved a significant predictor. This parenting dimension accounted for 26 per cent of the variance in global eating scores. When Restraint was entered as the DV, Maternal Care was again significantly predictive, but explained only eight per cent of the variance in Weight Concern scores. When Weight Concern was entered as the DV, again only Maternal Care proved significantly predictive, explaining 31 per cent of the variance in Weight Concern scores. No schema emerged as predictive in these models.

Table 3.9: Predictors of disordered eating within the primary care group

	<i>B</i>	<i>SE B</i>	<i>β</i>
Global EDE:			
Constant	12.930	4.317	
Maternal Care	-.788	.318	-.418*
Restraint:			
Constant	2.468	.526	
Maternal Care	-.112	.051	-.321*
Weight Concern:			
Constant	2.423	.865	
Maternal Care	-.150	.065	-.377*

* $p < .05$

Within the student group (see Table 3.10)

Since no PBI dimension was correlated with the EDE amongst students, only schemas were entered as independent variables. When global EDE was entered as the DV, Abandonment and Emotional Inhibition proved predictive. These schemas explained 29 per cent of the variance in global eating scores. When Eating Concern was entered as the DV, Abandonment and Failure proved predictive, explaining 28 per cent of the variance in Eating Concern scores. With Shape Concern as the DV, Abandonment and Failure were once again predictive, accounting for 28 per cent of the variance in Shape Concern scores. Finally, with Weight Concern as the DV, Abandonment and Emotional Inhibition were again predictive. These schemas accounted for 22 per cent of the variance in Weight Concern scores.

Table 3.10: Predictors of disordered eating within the student group

	<i>B</i>	<i>SE B</i>	<i>β</i>
Global EDE:			
Constant	8.759	1.147	
Abandonment	.382	.121	.456**
Emotional Inhibition	.377	.187	.289*
Eating Concern:			
Constant	.648	.173	
Abandonment	.047	.019	.377*
Failure	.050	.022	.386*
Shape Concern:			
Constant	2.112	.248	
Abandonment	.080	.026	.444**
Failure	.063	.031	.339*
Weight Concern:			
Constant	1.744	.256	
Abandonment	.062	.027	.347*
Emotional Inhibition	.106	.042	.379*

* $p < .05$; ** $p < .01$;

3.7 Path Analysis

To test the mediational hypothesis, path analysis was conducted for the AN and also the primary care group, but not for students since their perceptions of parenting were not related to their levels of disordered eating. Only the variables found to be significantly correlated with EDE scores were examined. Due to the large number of correlations conducted, a

more stringent alpha level of $p < .01$ was considered. However, one also runs the risk of making a Type-II error with this approach, especially since small effects (e.g. $r < .30$) can still prove predictive in a regression model (Field, 2005). Hence, all significant correlations were selected for each analysis.

Path analysis involves a series of regression analyses, following four steps: 1) the dependent variable (DV) is regressed on to the independent variable (IV); 2) the DV is regressed on to the mediating variable; 3) the mediating variable is regressed on to the IV; and 4) the DV is regressed on to both the IV and mediating variable simultaneously. Baron and Kenny (1986) state that all variables should be intercorrelated and that the regression equations from the first three steps should all be significant. In the fourth and final step, the IV should no longer be significant whilst the mediator should retain significance. Should all these criteria be met, then the mediational hypothesis would be supported. A general overview of the mediational model is presented in Figure 3.4. We can see that the direct relationship (Path C) between perceived negative parenting (IV) and disordered eating (DV) will weaken in the presence of perfectionistic schemas (mediator), since it is proposed that parenting will gain its effects primarily through the existence of such schemas (i.e. through a combined effect of Paths A and B).

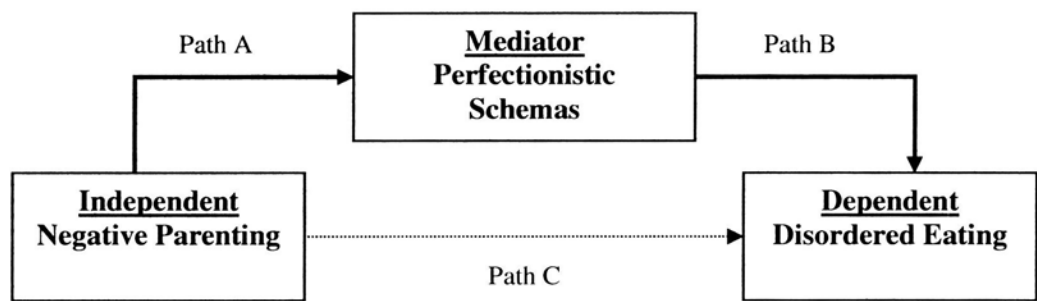


Figure 3.4: The mediational model

***Hypothesis 7:** The relationship between parenting and eating pathology within the anorexic group will be mediated through the existence of perfectionistic schemas*

Within the AN group

The PBI dimensions that correlated with disordered eating were Maternal Care and Paternal Care. The only schema to be correlated with both Paternal Care and the EDE (Shape

Concern) was Unrelenting Standards. None of the other perfectionistic schemas (i.e. Defectiveness and Failure) were significantly correlated with both the EDE and PBI, and so were not appropriate candidates to test within the above mediational model¹⁴. When carrying out the first step of the path analysis, whereby the DV (Shape Concern) was regressed on to Paternal Care, Path C was not significant and so no further test of mediation was conducted involving this PBI dimension, Unrelenting Standards, and Shape Concern.

The only schema to be correlated with both Maternal Care and the EDE (global score, Restraint and Weight Concern) was Emotional Deprivation. When global EDE was taken as the DV, all Paths (A, B and C) proved significant when following the first three steps as outlined by Baron and Kenny (1986; see above): the equation for Path A was significant with an associated beta value (β) of $-.607$ ($p < .001$); Path B was significant with $\beta = .394$ ($p < .05$); and Path C was significant with $\beta = -.318$ ($p < .05$). However, when Maternal Care and Emotional Deprivation were entered together in the fourth step, Path C was no longer significant and Path B only approached significance ($p = .08$). The outcome of this path analysis is shown overpage in Figure 3.5.

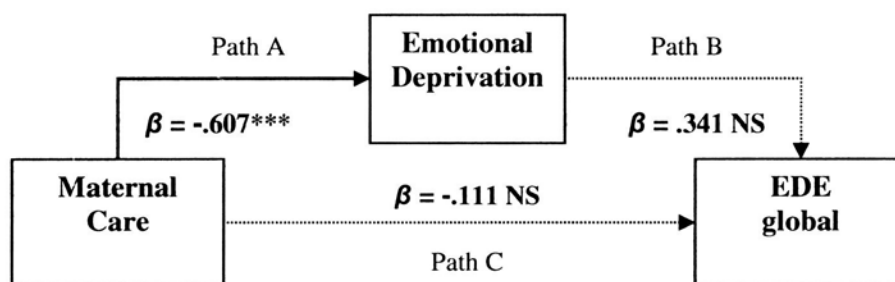


Figure 3.5: The actual model within the AN group

*** $p < .001$; NS = non-significant

Two further path analyses were conducted replacing EDE global score with Restraint and then Weight Concern as the DV, since these EDE subscales also correlated with both

¹⁴ The mediational hypothesis was also investigated for the entire sample (comprising all three groups), since it would be interesting to test the model against a sample of females comprising a wide age range and varying degrees of eating psychopathology. Also, the model would be more robust in terms of the statistical power gained with a larger N (i.e. all 162 participants). Again, only those variables significantly intercorrelated were entered in the model. Both Defectiveness and Failure mediated between paternal parenting and disordered eating. Failure also met Baron & Kenny's criteria for mediation between Maternal Control and eating. However, this model did not prove robust when Path B was reversed. The mediational models that proved significant are shown in the Path diagrams provided in Appendix XI. These models were robust when reverse path analyses were conducted. As Maternal Care was not found to be significantly correlated with both the EDE and YSQ amongst the sample overall, it was not entered as the IV in these series of path analyses.

Maternal Care and Emotional Deprivation. Although Path C in both equations was no longer significant, so did Path B lose its significance and, therefore, there was again no mediation when these EDE subscales represented the DV.

Within the primary care group

Maternal Care and Paternal Control correlated with the EDE. The schemas that correlated with both Paternal Control and the EDE (Shape Concern) were Emotional Deprivation, Abandonment, Mistrust and Abuse, Social Isolation, Defectiveness, Failure, Subjugation, and Insufficient Self-Control. However, when carrying out the first step of the path analysis, whereby the DV (Shape Concern) was regressed on to Paternal Control, Path C was not significant and so no further test of mediation was conducted involving this PBI dimension and the aforementioned schemas.

The schemas that correlated with both Maternal Care and EDE scores (all bar Restraint) were Emotional Deprivation, Social Isolation, Vulnerability, and Insufficient Self-Control. Only when entering Eating Concern as the DV and Insufficient Self-Control as the mediator did a significant mediating effect arise. All Paths were significant: the equation for Path A had an associated β value of $-.457$ ($p < .01$), Path B's $\beta = .429$ ($p < .01$), and Path C's $\beta = -.363$ ($p < .05$). When Eating Concern was regressed on Maternal Care and Insufficient Self-Control together, Path C was no longer significant while Path B retained significance. This is depicted below in Figure 3.6. Hence, within the primary care group, the relationship between Maternal Care and Eating Concern appears to be mediated by Insufficient Self-Control.

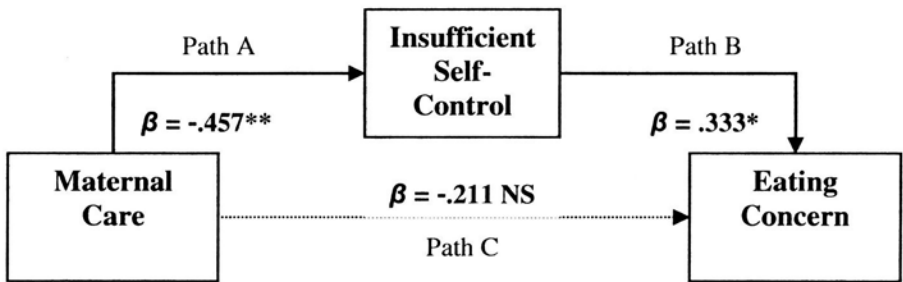


Figure 3.6: The model within the primary care group

* $p < .05$; ** $p < .01$; NS = non-significant

An additional step is also proposed by Baron and Kenny (1986) as a further check of the mediational hypothesis. They suggest interchanging the outcome variable and the mediating variable, and re-running the path analysis. If the DV (in this case Eating Concern) is found to mediate between the IV (Maternal Care) and the original mediator (Insufficient Self-Control), then one should be less confident in the original model. This check did not show that Eating Concern mediates between Maternal Care and Insufficient Self-Control and, therefore, the model shown in Figure 3.6 appears to be supported.

3.8 Summary

Several of this study's hypotheses appear supported by the results obtained, lending credence to the view that negative perceptions of parenting, and perfectionism at the level of schemas, impinge negatively on eating attitudes and behaviour. Findings relating to each hypothesis are discussed in the next chapter.

CHAPTER 4: DISCUSSION

4.1 Signpost to Discussion

There were seven hypotheses under investigation in this study. A range of statistical techniques was employed to test each of these, the results of which will now be interpreted. These results will be discussed within the context of what is currently understood about the manner in which parental bonding and perfectionistic schemas give rise to AN psychopathology. A critique of the study will be presented, leading to some suggestions for both clinical practice and future research.

4.2 Interpretation of Main Findings

Firstly, a number of group differences were uncovered which met with clinical expectations regarding what is known about the demographic profile of AN sufferers. That is, they weighed significantly less than control females, were predominantly single, and had a younger average age than a group of depressed/anxious females encountered within a primary care setting. The AN group also had significantly greater levels of disordered eating than controls. In comparison with normative data published for both versions of the EDE (e.g. Fairburn & Beglin, 1994; Mond et al, 2004; Binford et al, 2005), mean scores for AN and control participants appeared higher in the present study. However, this was not associated with a significant difference when one-sample *t*-tests were conducted.

Hypothesis 1: The anorexic group will harbour more negative perceptions of their parents (i.e. low care/high control) than both the primary care comparison group and healthy controls

Negative perceptions of parents were more prevalent in the AN group than in both control groups. The mean scores on all parenting dimensions followed the hypothesised pattern, with AN participants reporting less parental care and more control than both primary care and student participants. The particular parenting style reported within the AN group could be classified as ‘affectionless control’ with mean scores reflecting low care and high control

for both parents. In the primary care group, the style of mothers could be classified as 'neglectful parenting' (low care and low control) and the style of fathers as 'optimal parenting' (high care and low control). The overall maternal parenting style reported by students was 'optimal parenting' and the paternal style was 'affectionate constraint' (high care and high control).

Not all between group differences were significant, however. The greatest differences were found between the AN group and students, with perceptions of both Maternal and Paternal Care being significantly lower amongst AN participants. In addition, AN participants reported a significantly greater degree of Maternal Control than primary care participants, but not students whose scores fell between the AN and primary care groups (being closer to the primary care group). Differences relating to the Maternal dimensions showed the greatest effect ($r > .30$ for both care and control), whereas the difference in Paternal Care was weak ($r = .29$). There was a trend for Paternal Control to differentiate between groups, however this parenting dimension revealed no significant differences when post hoc comparisons were conducted. The primary care and student participants did not differ on any parenting dimension.

Hence, it appears that hypothesis one was met and the null hypothesis may be rejected: the AN group had more negative views of their parents than controls. An interesting pattern of differences was found in that only Maternal Control differentiated AN participants from primary care participants, whereas both care dimensions differentiated AN participants from healthy controls. This finding is consistent with other studies, whereby Maternal and Paternal Care, as well as Maternal Control, differentiated AN women from controls (Leung et al, 2000).

Hypothesis 2: Perfectionistic schemas (i.e. 'defectiveness', 'failure', and 'unrelenting standards') will be more prevalent amongst the anorexic group than amongst the primary care group and healthy controls

The groups differed on a number of maladaptive schemas, including those related to perfectionism. In particular, the largest differences ($r > .35$) found between the AN and primary care participants related to Defectiveness, Failure, and Unrelenting Standards, with mean scores in the AN group being significantly higher. The difference between these two

groups in relation to Dependence was also associated with a medium sized effect, with higher scores for AN participants.

Similarly, the greatest differences between AN and student participants ($r > .49$) related to Defectiveness, Failure, and Unrelenting Standards. In addition, Social Isolation and Subjugation were also associated with a medium sized effect. In all cases, AN participants' scores were higher than those for students.

Hence, hypothesis two was met: AN participants endorsed a greater number of perfectionistic schemas than both groups of controls. Leung et al (2000) also found AN participants scored higher than controls on the YSQ, but highly significant differences related to all schemas ($p < .001$ in all cases) and not just those relating to perfectionism.

Hypothesis 3: Disordered eating will be most strongly related to negative perceptions of parenting amongst the AN group

Negative perceptions of parenting were related to disordered eating within the AN and primary care groups, but not within the student group. Specifically, Maternal care was negatively correlated with eating pathology amongst AN and primary care participants. In addition, Paternal Care was negatively correlated with Shape Concern in the AN group, while Paternal Control was positively correlated with Shape Concern in the primary care group. The lack of correlation within the student group indicates that levels of disordered eating amongst this group were not related to perceived parenting. As students had a generally positive view of their parents, the lack of relationship to eating pathology ties with the above hypothesis.

Therefore, the third hypothesis gained some degree of support in that low Maternal Care was related to eating pathology. However, high Maternal Control bore no relationship with eating pathology. Also, low Paternal Care was only weakly correlated with concerns surrounding one's shape amongst AN participants and high Paternal Control showed only a weak correlation with concerns about shape amongst primary care participants. In short, eating pathology was related primarily to perceptions of mothers as lacking in care. This is partly consistent with Haudek et al's (1999) study in which low Maternal Care was the only parenting dimension to predict disordered eating amongst female undergraduates.

However, in the present study the relationship between Maternal Care and disordered eating held only within the AN and primary care groups, and was not found related to eating scores amongst students.

Hypothesis 4: Disordered eating will be most strongly related to perfectionistic schemas amongst the AN group

Most schemas were related to eating pathology across all groups. When focusing on global eating scores, the schemas that showed the greatest degree of association ($r > .40$) were different for each group. Within the AN group, Defectiveness, Failure, and Unrelenting Standards all showed moderate and significant ($p < .01$) positive correlations, as did Emotional Deprivation, Mistrust and Abuse, Subjugation, and Self-Sacrifice. Within the primary care group, Emotional Deprivation, Social Isolation, and Insufficient Self-Control showed the highest degree of association with eating pathology. Within the student group, Abandonment and Emotional Inhibition showed the highest degree of association.

Hence, hypothesis 4 was supported: perfectionistic schemas were related to disordered eating, and predominantly so amongst the AN group. This implies that perfectionistic schemas play a pivotal role amongst individuals with a diagnosis of AN and do not appear to be implicated amongst individuals exhibiting symptoms below clinical threshold. This finding is compatible with research employing other measures of perfectionism with AN participants (e.g. Bastiani et al, 1995; Terry-Short et al, 1995).

Hypothesis 5: Negative parenting will be more predictive of disordered eating within the AN group than amongst control groups

Perceptions of parenting did not predict disordered eating amongst AN participants. Amongst primary care participants, Maternal Care was predictive of disordered eating, accounting for 26 per cent of the variance in global eating scores. As students' perceptions of their parents did not correlate with any eating score, no parenting dimension was entered into the regression analysis for students.

The fifth hypothesis was not met and, therefore, the null hypothesis cannot be rejected: negative parenting was not predictive of disordered eating within the AN group, but was

predictive within the primary care group. It is recognised that this part of the analysis lacked statistical power, since multiple variables were entered in each regression model tested, requiring greater participant numbers than were available in the AN and primary care groups. These findings should therefore be interpreted with caution, since the risk of making a Type II error was high (i.e. accepting the null hypothesis when a significant effect exists). Other studies have demonstrated that perceived parenting does predict disordered eating (e.g. McCourt & Waller, 1995; Haudek et al, 1999).

Hypothesis 6: Perfectionistic schemas will be more predictive of disordered eating within the AN group than amongst control participants

Within the AN group, Failure emerged as the most predictive schema, emerging from all three significant regression models (relating to global EDE, Shape Concern, and Weight Concern) with the largest coefficient and degree of significance. Unrelenting Standards also proved predictive in relation to Weight Concern, but Defectiveness was not predictive in any model. Other predictive schemas were Emotional Deprivation, Mistrust and Abuse, and Social Isolation. Within the primary care group, no schema significantly predicted disordered eating. Within the student group, Failure again emerged as predictive of Eating Concern and Shape Concern. However, the Abandonment schema proved most predictive within this group, being associated with all four significant regression models tested. Emotional Inhibition was also significantly predictive for students.

Hence, results appear to support the sixth hypothesis: perfectionistic schemas were more predictive of disordered eating amongst AN participants. Although Failure was also predictive amongst students in relation to eating and shape concerns, coefficients were lower and less significant than was the case amongst AN participants. As when interpreting the results pertinent to hypothesis 5 above, caution should also be exercised here in respect of statistical power. As yet, no other study has specifically examined the predictive power of perfectionistic schemas on AN symptomatology and so direct comparisons cannot be drawn. However, results from Turner et al (2005) revealed that Defectiveness (and Dependence) was predictive of disordered eating attitudes and behaviours amongst their sample of schoolgirls.

Hypothesis 7: The relationship between parenting and eating pathology within the anorexic group will be mediated through the existence of perfectionistic schemas

Path analysis did not uncover a significant mediating relationship between parenting and disordered eating in respect of any schema within the AN group. Within the primary care group, Insufficient Self-Control appeared to mediate between Maternal Care and Eating Concern. Hypothesis 7 did not gain support and therefore the null hypothesis cannot be rejected: the relationship between perceptions of parenting and eating pathology was not mediated through perfectionistic schemas.

When applying path analysis on the entire data set (see Appendix XI), both Defectiveness and Failure emerged as significant mediators between both paternal dimensions and global eating scores. Although Failure also appeared to mediate between Maternal Control and eating pathology, this mediational model did not prove robust when Path B of the model was reversed. Hence, it may be that perfectionistic schemas are more pertinent to perceptions of fathers than mothers when considering the impact of such schemas on disordered eating. The overall path analysis offered tantalising results, suggesting that a mediating effect of perfectionistic schemas might be detected amongst a larger group of AN individuals.

Again, as no other study has looked specifically at the mediating effect of perfectionistic schemas on the relationship between parenting and disordered eating within an AN sample, comparisons are limited. A comparable study was carried out by Murray et al (2000) in which they also used a measure of self-conscious affect and also the PBI. It was found that the relationship between disordered eating and negative parenting (high Paternal Control) was mediated by feelings of shame (which are considered a core feature of Defectiveness, Young et al, 2003). However, Murray et al used a measure to screen for bulimic attitudes (BULIT; Smith & Thelen, 1984) in their sample of female undergraduates. It remains unclear whether this mediating pathway is peculiar to bulimic presentations of disordered eating or whether it also exists in those manifesting anorexic symptomatology.

In summary, four of this study's hypotheses were met, one gained partial support, and two were rejected. The AN group held more negative views of their parents and held a greater number of perfectionistic schemas than did controls (hypotheses 1 and 2 were supported).

Only Maternal Care was found to correlate with disordered eating, (hypothesis 3 was partially supported). Disordered eating correlated with perfectionistic schemas (hypothesis 4 was supported), and particularly so amongst AN participants. When entering all significantly correlated variables in a regression model, negative perceptions of parenting did not prove predictive of disordered eating amongst AN participants, whilst Maternal Care was predictive amongst primary care participants (hypothesis 5 was rejected). However, perfectionistic schemas did prove more predictive of disordered eating amongst the AN group (hypothesis 6 was supported). Finally, perfectionistic schemas did not appear to mediate between negative parenting and disordered eating in any group (hypothesis 7 was rejected), although path analysis conducted on the sample overall uncovered several mediational pathways.

4.3 General Discussion

Few studies have focused specifically on the relationship between disordered eating, perceived parenting, and perfectionism or schemas. Leung et al (2000) found that all PBI dimensions, bar Paternal Control, differentiated AN sufferers from comparison women, with the AN group reporting more negative parenting (i.e. low care and/or high control). Turner et al (2005) found the same three PBI dimensions predicted disturbed eating amongst teenage schoolgirls (although their regression model explained only 10 per cent of the variance in eating disorder scores). Regarding the present study, although no parenting dimension was predictive of disordered eating amongst AN participants, the same dimensions (Maternal Care and Control, and Paternal Care) again differentiated the AN group from control groups. Hence, it seems that perceptions of negative parenting – specifically, rejecting parents and overly controlling mothers – have a key role to play in presentations of disordered eating. The role of Paternal Control has not received much empirical support, although two studies found that this parenting dimension was related to bulimic symptomatology in community samples of young women (Murray et al, 2000; Meyer & Gillings, 2004). Therefore, it may be the case that Paternal Control plays a greater role in those suffering from BN. Support from this comes from Sordelli et al (1996) where they found that BN patients perceived their fathers as significantly more controlling than AN patients. However, Palmer et al (1988) found that Paternal Control did not differentiate between anorexic and bulimic patients.

The YSQ was also administered to participants in the aforementioned studies by Leung et al and also Turner et al. As in the present study, Leung and colleagues found between group differences on most subscales of the YSQ, with the AN group scoring significantly higher than comparison women. Unfortunately, Leung et al's study did not incorporate a measure of disordered eating and so comparisons cannot be drawn with the present study in terms of the correlational patterns found in respect to eating. The AN group in Leung et al's study comprised consecutive referrals to a specialist eating disorders service who met diagnostic criteria. As no objective score(s) of disordered eating was reported, we cannot ascertain how comparable the patients were to the AN sample in the present study. Their regression analyses, with schemas as the outcome variable, found that both care dimensions were predictive of a number of schemas. In terms of perfectionistic schemas, Defectiveness and Unrelenting Standards were both predicted by low Maternal Care amongst AN participants. In the present study, the PBI and YSQ were largely uncorrelated within the AN group, although Unrelenting Standards did show a weak relationship with Paternal Control. It should be noted that Leung et al's study may also be considered to lack statistical power in terms of their regression analysis. According to Cohen (1992), entering four independent variables (representing each PBI dimension) would require a sample size of at least 38 in each group, whereas Leung et al's groups comprised only 30 AN individuals, 27 BN individuals, and 25 controls. The strongest correlations between parenting and schemas were uncovered within the AN group.

Regarding the Turner et al's study of adolescents (in which the YSQ-S was used), Defectiveness and Dependence were found to mediate between perceptions of parenting and disordered eating when they examined their data by way of path analysis. Their analysis was sufficiently powered by their large sample size ($N = 367$), which gives confidence in their results. Interestingly, when path analysis was conducted on this study's entire sample ($N = 162$), Defectiveness and Dependence (amongst others) were also found to mediate between parenting and disordered eating, although only in respect of Paternal Care (both schemas) and Paternal Control (Defectiveness).

Although AN participants viewed both parents as less caring than student controls, they differed significantly from primary care participants only in respect of Maternal Control. This suggests that negative perceptions of parenting, especially in relation to low care, are implicated in psychopathology more generally and are not specific to disordered eating.

This finding is consistent with studies examining parental bonding in other psychologically disturbed groups, demonstrating that low parental care is primarily associated with general psychological disturbance (e.g. Parker, 1983; Enns, Cox & Clara, 2002). The fact that Maternal Control did differentiate between AN and primary care participants is also consistent with psychodynamic theories (e.g. Bruch, 1973) that postulate overly controlling parents (and especially mothers) predispose an individual to disordered eating as a means of asserting her own autonomy and identity. Hence, it may be the case that parents perceived as lacking in care is a risk factor for psychological dysfunction, whereas mothers perceived as high in control is an additional risk factor for AN. Support for this comes from a study by Walters and Kendler (1995) in which high Maternal Control was found to be the only relevant parenting dimension amongst AN individuals. Also, McCourt and Waller (1995) found that only high Maternal Control was related to disordered eating amongst their sample of schoolgirls. Another study found that dissatisfaction with body shape and weight was more prevalent in the context of mothers who reject their daughters' attempts at increased independence (Ogden & Steward, 2000). Findings from the present study are therefore consistent with current literature and also with Slade's (1982) formulation of AN, in which high parental control is considered central to the development of AN pathology.

It is worth bearing in mind that individuals with AN may intentionally or subconsciously disguise areas of difficulty, consistent with their concerns of portraying a positive self-view, including the quality of their interpersonal relationships. Indeed, some researchers report that individuals with AN tend to speak well of their parents (Sordelli et al, 1996), which can appear at odds with the clinical picture with which they present. Casper and Troiani (2001) have speculated that the family harmony often depicted by those with AN may stem from a need to deny conflict and/or avoid negative evaluation. If one were to assume that this tendency existed within the current sample of AN individuals, then this may have deflated between group differences in perceived parenting.

The finding that perfectionistic schemas showed the greatest difference between groups, with AN individuals scoring higher than controls, supports other empirical findings in the area of perfectionism and eating disorders (e.g. Bastiani et al, 1995; Tozzi et al, 2003). Although perfectionism has also been implicated in the development of BN, it appears to have its greatest influence amongst those suffering from AN (Tyrka et al, 2002). As a primary feature of AN is the relentless pursuit of thinness and the setting of exceedingly

strict dietary rules, AN individuals would be expected to evidence a greater degree of negative perfectionism, since this is also characterised by relentless striving towards unrealistically high goals. Also, those with negative perfectionism are likely to discount successes even when their high goals are met and this is also a primary feature of the AN syndrome, whereby sufferers may well believe that their goals for dietary restraint are not strict enough when targets for weight loss are met. Hence, perfectionistic schemas seem especially relevant in relation to the onset and maintenance of AN.

In those suffering from depression or anxiety (and not an eating disorder), Insufficient Self-Control appears to be relevant to concerns over eating, particularly so when mothers are perceived as low in care. From a psychoanalytic perspective, mothers who do not meet their child's needs for warmth and affection will not provide the child with a sufficient template for nurturance in terms of a secure base of attachment. Consequent difficulties with emotional regulation and impulse control may then arise. This seems borne out by the data from the primary care participants in this study, who perceived themselves as lacking sufficient self-control for managing their emotional state (e.g. frustration and boredom are measured by items on this subscale). Although AN participants were expected to perceive low levels of maternal care, their maladaptive schemas were not expected to include Insufficient Self-Control. By definition, individuals diagnosed with AN display extreme degrees of self-control, especially in terms of their strict adherence to dietary rules. Although AN participants obtained comparable scores with primary care participants on this schema, it was more strongly related to disordered eating in the primary care group. Hence, the schema does not have a mediating role to play amongst those with more severe eating psychopathology. It may be that AN participants perceive themselves as lacking self-control in the context of even slight deviations from their self-imposed rules for eating and weight loss, but that this is not related to their actual degree of dietary restraint and concerns surrounding food. For primary care participants on the other hand, their views of self as lacking control may be expected to correlate more with actual levels of disordered eating, since their impulsive tendencies are likely to represent more objective impressions of insufficient self-control (at least in relation to food). It is interesting that those with purging AN scored higher on this schema than those with restricting AN, which no doubt partly reflects the diagnostic differences pertaining to binge/purge cycles of weight control.

In summary, when considering present findings against the backdrop of the current research base, there are both consistencies and discrepancies. In relation to the PBI, it appears that negative parenting is related to general psychological dysfunction, with the exception of Paternal Control, and that Maternal Control may play a more significant role in relation to AN psychopathology. Also, in the present study, perfectionistic schemas emerged as the most highly correlated of Young's maladaptive schemas in terms of eating pathology amongst AN participants in the present study, and this is tentatively supported by studies employing non-clinical samples (e.g. Turner et al, 2005; Waller et al, 2000). This study's findings support previous research that have implicated perfectionism and perceived parenting in the development of AN. Present findings also suggest that the YSQ-S may be usefully employed as a measure of perfectionism at the level of schemas. Hence, further research appears warranted in order to further illuminate the mediating pathways suggested in this study.

4.4 Clinical Implications

The findings from this study have several implications for clinical practice. In respect of perfectionistic schemas, Young et al (2003) offer some advice on treatment strategies and problems that may be encountered in therapy. Regarding Defectiveness, the primary goal should be to increase the individual's sense of self-esteem by facilitating acknowledgement that they tend to over-exaggerate their flaws and overlook any assets. Cognitive strategies may then be practised in terms of gathering evidence for and against the schema. Since Defectiveness is believed to stem from overly criticising or rejecting parents, an important part of the schema-focused approach is for individuals to vent their emotions towards their parents through guided imagery. With this schema, 'limited reparenting' is indicated, whereby the therapist models a 'healthy adult mode' with the aim of this being internalised by the patient. The therapist should bear in mind that individuals may have difficulty revealing pertinent personal information, due to their inherent feelings of defectiveness, and their embarrassment and/or fear of exposing any flaws. Coupled with the often secretive nature of AN, establishment of a trusting therapeutic alliance will be of paramount importance.

A primary goal in working with someone who has a Failure schema is to increase skills and confidence, which should incorporate reappraisal of their achievements. Individuals could also be helped to recognise their own limitations, without this undermining their sense of self-worth. Coping strategies could be rehearsed for managing life's demands, especially in terms of preparing for future challenges and handling disappointments. Strategies for gathering evidence for and against this schema could be usefully employed, as individuals with a Failure schema typically have a cognitive bias in terms of dwelling on their perceived mistakes and discounting successes. The setting of realistic goals will also have an important part to play, both in terms of the individual's long-term plans and within the course of therapy. Young et al (2003) warn that these individuals may be reluctant to engage in the process of treatment, since their fear of failure may prevent them from fully committing themselves to tasks. They may also be likely to terminate therapy prematurely. Indeed, Halmi et al (2000) found that low motivation to change and more severe eating pathology were associated with higher levels of perfectionism amongst their anorexic sample. A non-judgemental and encouraging therapeutic stance will therefore be vitally important when working with individuals who have a Failure schema, especially in the context of AN. Reparenting may also be indicated here, whereby the therapist provides structure, supports and acknowledges successes, and sets realistic expectations and limits.

In respect of individuals who exhibit Unrelenting Standards, the main aim for treatment will be to help individuals reduce their hypercritical self-view and also their unremitting tendency to set exceedingly high goals. Behavioural experiments should be collaboratively designed in order to demonstrate that performing in a less than perfect manner will not lead to severely detrimental consequences. Cognitive strategies could be employed to counter the all-or-nothing thinking (i.e. thinking in extreme and absolute terms) central to this schema, and which are commonly found amongst AN individuals (e.g. Garner & Beamis, 1982). Again, a non-judgemental stance will be especially important when working with individuals who have this schema. Secondary gain may present an obstacle to therapeutic endeavours, since the benefits of maintaining high standards may seem to outweigh the prospect of reducing their goals; if they perform in only a suboptimal way, then they will be likely to engage in harsh self-criticism which will also lower their already precipitous sense of self-esteem. Detailed evaluation of the possible outcomes of lowering their goals for performance will be required, perhaps incorporating motivational interviewing techniques such as cost-benefit analysis (Orimoto & Vitousek, 1992).

Since early maladaptive schemas are thought to arise from the child's early environment (primarily, their interactions with parents), within schema-focused therapy role-playing between patient and therapist may be a central component. Pertinent scenarios from the past, present or future are chosen, whereby child, adult and parent modes (e.g. 'dysfunctional parent') are incorporated to elicit, confront and heal maladaptive schemas. Hence, not only does the schema-focused approach appear to offer a comprehensive method for accessing and challenging dysfunctional cognitions at the level of schemas/core beliefs, but it also provides a structured way of mending perceptions of faulty parental bonds. As yet, there have been no controlled outcome studies including schema-focused therapy amongst those suffering with AN.

4.5 Strengths and Limitations

The choice of a depressed/anxious control group was appropriate, given that a general aim of the study was to compare AN participants' profile of scores with a group of healthy individuals and also with a psychologically disturbed group without an eating disorder. This would determine whether differences between AN and healthy controls were related to AN symptomatology or, instead, related to psychological difficulty more generally. As depression and anxiety are common comorbid problems amongst those with AN (e.g. Bizeul et al, 2003), inclusion of the primary care group allowed the potential effects of low mood and anxiety to be partialled out by examination of inter-group differences. Further, any overlap in terms of psychological disturbance would tend to minimise group differences rather than exaggerate them (Fairburn et al, 1999). Hence, it may be said that differences in the present study were assessed conservatively, which raises confidence in the significant results that were obtained.

This study could be criticised on the basis of including EDNOS participants in the AN group or for not carrying out separate analyses by diagnostic category. Although all eating disordered participants were receiving treatment for AN, fifteen did not meet all DSM-IV criteria at the time of their participation in this study (i.e. the 15 whose BMI fell above the 17.5 cut-off). As no significant differences were uncovered between those with EDNOS and those meeting full diagnostic criteria, it seemed appropriate to combine all eating disordered participants into one group. In fact, where differences were uncovered between

diagnostic subgroups, these were between those with restricting and purging AN. Also, since all diagnostic subgroups differed significantly from both groups of controls, there seemed no clear justification for analysing them as separate diagnostic subgroups. Also, the lower numbers involved in separate subgroup analyses would have negative ramifications in terms of statistical power. Some studies have excluded EDNOS participants in order to study a relatively pure group of AN sufferers (e.g. Srinivasagam et al, 1995), but this has usually been during an initial screening whereby these participants have not yet received any other eating disorder diagnosis. The difference in the present study was that those categorised as EDNOS had recently met diagnostic criteria for AN. It is also worth noting that, by definition, purging and restricting AN participants differed on the presence or absence of purgative means of weight control, whereas EDNOS participants differed only in terms of their BMI (with half still falling within the underweight range). Hence, the inclusion of a heterogeneous AN group may be considered a strength of this study, since such a group represents a cross-section of those currently in treatment for AN. In any case, atypical AN is often as severe and as chronic as AN (Walsh & Garner, 1997), therefore presentation, prognosis and treatment are unlikely to differ (NICE, 2004).

This study may have benefited from inclusion of a measure specifically designed to assess perfectionism. However, there is no one measure that offers a comprehensive assessment of negative perfectionism at the level of schemas. Slade and Dewey's (1986) measure (the SCANS, see Introduction, p.16) was initially considered, since it does enquire about various perfectionistic cognitions. However, this scale was designed to elicit perfectionism within the context of AN and, as such, was not deemed the most appropriate measure for control participants. A measure such as the SCANS would likely be more useful when conducting research employing a within-groups design or when examining differences between diagnostic subgroups. Nevertheless, it may have proved useful to include an additional measure of perfectionism (e.g. Frost et al's (1990) MPS) against which to validate responses made in relation to the perfectionistic schemas contained in the YSQ. However, a degree of controversy surrounds most other available scales, with some appearing to tap both negative and positive aspects of perfectionism, and others measuring factors related to negative perfectionism but not the construct per se (e.g. one's standards in respect of other people's performance, or parental expectations for high performance). Also, when designing this study, consideration was given to the approximate time involved in

participating. As the YSQ-S is still fairly lengthy at 75 items, an additional measure may have proved burdensome for some participants.

The same justification applies for not including a measure of general psychopathology (e.g. the Symptom Checklist; SCL-90-R; Derogatis, 1994) or depression/anxiety (e.g. the Hospital Anxiety and Depression Scale; HADS; Zigmond & Snaith, 1983), although such measures seemed less pertinent due to the recruitment of the primary care group. These participants were recruited on the basis of their referral problem (i.e. depression and/or anxiety) and, as such, would represent a fairly typical cross-section of depressed/anxious females. Even if a separate depression/anxiety measure had been included, it is unlikely that state factors would have influenced scores on the measures used in this study. Parker (1981) has demonstrated that the PBI has good temporal stability when he administered the measure to a sample of clinically depressed patients on two occasions. Responses were stable even amongst those whose depression severity had changed from the first administration.

As with all self-report instruments, one cannot be completely confident that responses made are a true reflection of reality. This criticism may be especially relevant to the PBI where individuals are required to reflect back on the first 16 years of their life. Memories may fade or it could be easier to focus on just the more recent period of adolescence (rather than childhood more generally). Even so, some researchers have argued that the subjective experience of the parental bond is more important than objective reality in the development and maintenance of psychological disorder (e.g. Parker, 1983). It might also be said that psychological dysfunction could distort perceptions of parental bonding. Findings from studies that have investigated this suggest that negative perceptions of parenting precede the onset of difficulties, rather than arise as a consequence of such difficulties (Parker, 1990).

In addition, the PBI has been criticised for not relating specifically to Bowlby's attachment constructs (Ward et al, 2000) and, therefore, may not represent the most appropriate measure of early parent-child bonds. It is true that responses made on the PBI do not appear to map on to specific types of attachment (e.g. 'insecure', 'ambivalent'). However, early work (including that by attachment theorists), clinical impressions, and research using a variety of instruments in childhood, adolescence and adulthood, all point towards the importance of care/emotional warmth and overprotection/control. Hence, the PBI appeared

to have good face validity for examining one's relationship with parents covering a fairly large stretch of time. Also, the PBI is the most widely used measure of parenting style (Enns et al, 2002) in clinical and non-clinical samples (e.g. Mak, 1994).

Results could have been confounded by including patients at different stages of therapy. For example, many patients may have specifically targeted their maladaptive schemas as part of their course of treatment. However, this would translate to an underestimation rather than an exaggeration of any between group differences. Also, schemas are thought to represent stable structures that have their own "survival instinct" (Young et al, 2003) and, as such, they might be expected to remain in place regardless of treatment outcome. It is suggested that, even if schemas were a target of treatment amongst patients in this study, any positive change observed could be due to the individual's ability to both recognise and cope with the effects of their maladaptive beliefs, rather than complete amelioration of such beliefs.

Although the overall sample size in this study was fairly large, certain analyses lacked statistical power when analysing data within groups. Also, statements about causation cannot be made from correlational data. It is also noted that the low variance in terms of the range of disordered eating scores amongst the AN group may have accounted for some of the null findings (e.g. under hypothesis 5). Finally, the between-group correlations were not tested statistically (by, for example, structural equation modelling), which further limits the conclusions that can be drawn.

4.6 Directions for Future Research

Since there did exist significant between group differences in terms of both parenting and perfectionistic schemas, further research seems warranted involving a larger group of AN participants. Also, the overall analysis conducted on the entire sample suggests that perfectionistic schemas are the most likely mediators, especially in relation to perceptions of father's care and control.

It would also be helpful to compare mediational models between different eating disordered groups (e.g. AN versus BN or AN purging versus AN restricting). Although the AN group

in the present study comprised both those with restricting and purging AN, and also EDNOS, the small numbers involved (i.e. < 20 in each group) prevented exploration of mediating variables within these subgroups.

Another possibly fruitful avenue of research would be to follow-up AN individuals within a repeated-measures design to examine whether relationships between variables change over the course of treatment. Although the perceptions of parental relations and maladaptive schemas are considered stable constructs, it could be that the specific correlational and mediational pathways are subject to change. This may be especially so following a course of schema-focused cognitive therapy, which targets both maladaptive schemas and perceptions of parents. Some researchers state that the best way of testing a mediational hypothesis is to employ a longitudinal design (e.g. MacBrayer et al, 2001).

4.7 Conclusions

Overall, this study's aims were accomplished in terms of establishing the hypothesised differences between groups. It was also revealed that perfectionistic schemas show a stronger relationship to disordered eating amongst the AN group. However, the proposed mediational hypothesis could not be ascertained. Nevertheless, the different pattern of correlations across groups suggested that, where mediational pathways exist, perfectionistic schemas are most likely to play a role amongst those suffering from AN.

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Appendix I:
The Eating Disorders Examination – Questionnaire

EATING QUESTIONNAIRE

Instructions

The following questions are concerned with the PAST FOUR WEEKS ONLY (28 days). Please read each question carefully and circle the appropriate number on the right. Please answer all the questions.

ON HOW MANY DAYS OUT OF THE PAST 28 DAYS	No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Every day
1 Have you been deliberately <u>trying</u> to limit the amount of food you eat to influence your shape or weight?	0	1	2	3	4	5	6
2 Have you gone for long periods of time (8 hours or more) without eating anything in order to influence your shape weight?	0	1	2	3	4	5	6
3 Have you <u>tried</u> to avoid eating any foods which you like in order to influence your shape or weight?	0	1	2	3	4	5	6
4 Have you <u>tried</u> to follow definite rules regarding your eating in order to influence your shape or weight; for example, a calorie limit, a set amount of food, or rules about what or when you should eat?	0	1	2	3	4	5	6
5 Have you wanted your stomach to be empty?	0	1	2	3	4	5	6
6 Has thinking about food or its calorie content made it much more difficult to concentrate on things you are interested in; for example, read, watch TV, or follow a conversation?	0	1	2	3	4	5	6
7 Have you been afraid of losing control over eating?	0	1	2	3	4	5	6

ON HOW MANY DAYS OUT OF THE PAST 28 DAYS	No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Every day
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8 Have you had episodes of binge eating?	0	1	2	3	4	5	6
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9 Have you eaten in secret? (Do not count binges.)	0	1	2	3	4	5	6
--	---	---	---	---	---	---	---

10 Have you definitely wanted your stomach to be flat?	0	1	2	3	4	5	6
--	---	---	---	---	---	---	---

11 Has thinking about shape or weight made it more difficult to concentrate on things you are interested in; for example read, watch TV or follow a conversation?	0	1	2	3	4	5	6
---	---	---	---	---	---	---	---

12 Have you had a definite fear that you might gain weight or become fat?	0	1	2	3	4	5	6
---	---	---	---	---	---	---	---

13 Have you felt fat?	0	1	2	3	4	5	6
-----------------------	---	---	---	---	---	---	---

14 Have you had a strong desire to lose weight?	0	1	2	3	4	5	6
---	---	---	---	---	---	---	---

OVER THE PAST FOUR WEEKS (28 DAYS)

15 On what proportion of times that you have eaten have you felt guilty because the effect on your shape or weight? (Do not count binges.) (Circle the number which applies.)	0 - None of the times
	1 - A few of the times
	2 - Less than half the times
	3 - Half the times
	4 - More than half the times
	5 - Most of the time
	6 - Every time

16 Over the past four weeks (28 days), have there been any times when you have felt that you have eaten what other people would regard as an unusually large amount of food given the circumstances? (Please put appropriate number in box.)

0 - No
1 - Yes

[]

17 How many such episodes have you had over the past four weeks?

[][][]

18 During how many of these episodes of overeating did you have a sense of having lost control over your eating?

[][][]

19 Have you had other episodes of eating in which you have had a sense of having lost control and eaten too much, but have not eaten an unusually large amount of food given the circumstances?

0 - No
1 - Yes

[]

20 How many such episodes have you had over the past four weeks?

[][][]

21 Over the past four weeks have you made yourself sick (vomit) as a means of controlling your shape or weight?

0 - No
1 - Yes

[]

22 How many times have you done this over the past four weeks?

[][][]

23 Have you taken laxatives as a means of controlling your shape or weight

0 - No
1 - Yes

[]

24 How many times have you done this over the past four weeks?

[][][]

25 Have you taken diuretics (water tablets) as a means of controlling your shape or weight?

0 - No
1 - Yes

[]

26 How many times have you done this over the past four weeks?

[][][]

27 Have you exercised hard as a means of controlling your shape or weight?

0 - No
1 - Yes

[]

28 How many times have you done this over the past four weeks?

OVER THE PAST FOUR WEEKS 28 DAYS) (Please circle the number which best describes your behaviour.)		NOT AT ALL		SLIGHTLY		MODERATELY		MARKEDLY
29	Has your weight influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
30	Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
31	How much would it upset you if you had to weigh yourself once a week for the next four weeks?	0	1	2	3	4	5	6
32	How dissatisfied have you felt about your weight?	0	1	2	3	4	5	6
33	How dissatisfied have you felt about your shape?	0	1	2	3	4	5	6
34	How concerned have you been about other people seeing you eat?	0	1	2	3	4	5	6
35	How uncomfortable have you felt seeing your body; for example, in the mirror, in shop window reflections, while undressing or taking a bath or shower?	0	1	2	3	4	5	6
36	How uncomfortable have you felt about others seeing your body; for example, in communal chan- ging rooms, when swimming or wearing tight clothes?	0	1	2	3	4	5	6

Appendix II:
The Parental Bonding Instrument (Short Form)

PARENTAL BONDING INSTRUMENT (PBI-S) – MOTHER

For each item, please underline the alternative that best describes how you remember your mother* in the first 16 years of your life. [*Or the individual who you regarded in that role, e.g., grandmother, aunt, step-mother, etc.]

She did not talk with me very much

Strongly agree Agree Disagree Strongly disagree

She was affectionate to me

Strongly agree Agree Disagree Strongly disagree

She appeared to understand my problems and worries

Strongly agree Agree Disagree Strongly disagree

She did not help me as much as I needed

Strongly agree Agree Disagree Strongly disagree

She did not understand what I needed and wanted

Strongly agree Agree Disagree Strongly disagree

She liked me to make my own decisions

Strongly agree Agree Disagree Strongly disagree

She let me decide things for myself

Strongly agree Agree Disagree Strongly disagree

She tried to control everything I did

Strongly agree Agree Disagree Strongly disagree

She tended to baby me

Strongly agree Agree Disagree Strongly disagree

She was overprotective

Strongly agree Agree Disagree Strongly disagree

PARENTAL BONDING INSTRUMENT (PBI-S) – FATHER

For each item, please underline the alternative that best describes how you remember your father* in the first 16 years of your life. [*Or the individual who you regarded in that role, e.g., grandfather, uncle, step-father, etc.]

He did not talk with me very much

Strongly agree Agree Disagree Strongly disagree

He was affectionate to me

Strongly agree Agree Disagree Strongly disagree

He appeared to understand my problems and worries

Strongly agree Agree Disagree Strongly disagree

He did not help me as much as I needed

Strongly agree Agree Disagree Strongly disagree

He did not understand what I needed and wanted

Strongly agree Agree Disagree Strongly disagree

He liked me to make my own decisions

Strongly agree Agree Disagree Strongly disagree

He let me decide things for myself

Strongly agree Agree Disagree Strongly disagree

He tried to control everything I did

Strongly agree Agree Disagree Strongly disagree

He tended to baby me

Strongly agree Agree Disagree Strongly disagree

He was overprotective

Strongly agree Agree Disagree Strongly disagree

Appendix III:
The Young Schema Questionnaire (Short Form)

YOUNG SCHEMA QUESTIONNAIRE (YSQ-S)

Listed below are statements that a person might use to describe himself or herself. Please read each statement and decide how well it describes you. When you are not sure, base your answer on what you emotionally *feel*, not on what you *think* to be true. Choose the highest rating from 1 to 6 that describes you.

- 1 – completely untrue of me
- 2 – mostly untrue of me
- 3 – slightly more true than untrue
- 4 – moderately true of me
- 5 – mostly true of me
- 6 – describes me perfectly

1. Most of the time, I haven't had someone to nurture me, share him/herself with me, or care deeply about everything that happens to me

1 2 3 4 5 6

2. In general, people have not been there to give me warmth, holding, and affection

1 2 3 4 5 6

3. For much of my life, I haven't felt that I am special to someone

1 2 3 4 5 6

4. For the most part, I have not had someone who really listens to me, understands me, or is tuned into my true needs and feelings

1 2 3 4 5 6

5. I have rarely had a strong person to give me sound advice or direction when I'm not sure what to do

1 2 3 4 5 6

ed

6. I find myself clinging to people I'm close to, because I'm afraid they'll leave me

1 2 3 4 5 6

7. I need other people so much that I worry about losing them

1 2 3 4 5 6

8. I worry that people I feel close to will leave me or abandon me

1 2 3 4 5 6

9. When I feel someone I care for pulling away from me, I get desperate

1 2 3 4 5 6

10. Sometimes I am so worried about people leaving me that I drive them away

1 2 3 4 5 6

ab

11. I feel that people will take advantage of me

1 2 3 4 5 6

- 1 – completely untrue of me
- 2 – mostly untrue of me
- 3 – slightly more true than untrue
- 4 – moderately true of me
- 5 – mostly true of me
- 6 – describes me perfectly

12.I feel that I cannot let my guard down in the presence of other people, or else they will intentionally hurt me

1 2 3 4 5 6

13.It is only a matter of time before someone betrays me

1 2 3 4 5 6

14.I am quite suspicious of other people's motives

1 2 3 4 5 6

15.I'm usually on the lookout for people's ulterior motives

1 2 3 4 5 6

m.a.

16.I don't fit in

1 2 3 4 5 6

17.I'm fundamentally different from other people

1 2 3 4 5 6

18.I don't belong; I'm a loner

1 2 3 4 5 6

19.I feel alienated from other people

1 2 3 4 5 6

20.I always feel on the outside of groups

1 2 3 4 5 6

s.i.

21.No man/woman I desire could love me once he/she saw my defects

1 2 3 4 5 6

22.No one I desire would want to stay close to me if he/she knew the real me

1 2 3 4 5 6

23.I'm unworthy of the love, attention, and respect of others

1 2 3 4 5 6

24.I feel that I'm not lovable

1 2 3 4 5 6

25.I am too unacceptable in very basic ways to reveal myself to other people

1 2 3 4 5 6

df

- 1 – completely untrue of me
- 2 – mostly untrue of me
- 3 – slightly more true than untrue
- 4 – moderately true of me
- 5 – mostly true of me
- 6 – describes me perfectly

26. Almost nothing I do at work (or school) is as good as other people can do

1 2 3 4 5 6

27. I'm incompetent when it comes to achievement

1 2 3 4 5 6

28. Most other people are more capable than I am in areas of work and achievement

1 2 3 4 5 6

29. I'm not as talented as most people are at their work

1 2 3 4 5 6

30. I'm not as intelligent as most people when it comes to work (or school)

1 2 3 4 5 6

fa

31. I do not feel capable of getting by on my own in everyday life

1 2 3 4 5 6

32. I think of myself as a dependent person, when it comes to everyday functioning

1 2 3 4 5 6

33. I lack common sense

1 2 3 4 5 6

34. My judgement cannot be relied upon in everyday situations

1 2 3 4 5 6

35. I don't feel confident about my ability to solve everyday problems that come up

1 2 3 4 5 6

dp

36. I can't seem to escape the feeling that something bad is about to happen

1 2 3 4 5 6

37. I feel that a disaster (natural, criminal, financial, or medical) could strike at any moment

1 2 3 4 5 6

38. I worry about being attacked

1 2 3 4 5 6

39. I worry that I'll lose all my money and become destitute

1 2 3 4 5 6

- 1 – completely untrue of me
- 2 – mostly untrue of me
- 3 – slightly more true than untrue
- 4 – moderately true of me
- 5 – mostly true of me
- 6 – describes me perfectly

40.I worry that I'm developing a serious illness, even though nothing serious has been diagnosed by a physician

1 2 3 4 5 6

vu

41.I have not been able to separate myself from my parent(s), the way other people my age seem to

1 2 3 4 5 6

42.My parent(s) and I tend to be overinvolved in each other's lives and problems

1 2 3 4 5 6

43.It is very difficult for my parent(s) and me to keep intimate details from each other, without feeling betrayed or guilty

1 2 3 4 5 6

44.I often feel as if my parent(s) are living through me – I don't have a life of my own

1 2 3 4 5 6

45.I often feel that I do not have a separate identity from my parent(s) or partner

1 2 3 4 5 6

enm

46.I think that if I do what I want, I'm only asking for trouble

1 2 3 4 5 6

47.I feel that I have no choice but to give in to other people's wishes, or else they will retaliate or reject me in some way

1 2 3 4 5 6

48.In relationships, I let the other person have the upper hand

1 2 3 4 5 6

49.I've always let others make choices for me, so I really don't know what I want for myself

1 2 3 4 5 6

50.I have a lot of trouble demanding that my rights be respected and that my feelings be taken into account

1 2 3 4 5 6

su

51.I'm the one who usually ends up taking care of the people I'm close to

1 2 3 4 5 6

- 1 – completely untrue of me
- 2 – mostly untrue of me
- 3 – slightly more true than untrue
- 4 – moderately true of me
- 5 – mostly true of me
- 6 – describes me perfectly

52.I am a good person because I think of others more than myself

1 2 3 4 5 6

53.I'm so busy doing for the people that I care about, that I have little time for myself

1 2 3 4 5 6

54.I've always been the one who listens to everyone else's problems

1 2 3 4 5 6

55.Other people see me as doing too much for others and not enough for myself

1 2 3 4 5 6

s.s.

56.I am too self-conscious to show positive feelings to others (e.g., affection, showing I care)

1 2 3 4 5 6

57.I find it embarrassing to express my feelings to others

1 2 3 4 5 6

58.I find it hard to be warm and spontaneous

1 2 3 4 5 6

59.I control myself so much that people think I am unemotional

1 2 3 4 5 6

60.People see me as uptight emotionally

1 2 3 4 5 6

e.i.

61.I must be the best at most of what I do; I can't accept second best

1 2 3 4 5 6

62.I try to do my best; I can't settle for 'good enough'

1 2 3 4 5 6

63.I must meet all my responsibilities

1 2 3 4 5 6

64.I feel there is constant pressure for me to achieve and get things done

1 2 3 4 5 6

65.I can't let myself off the hook easily or make excuses for my mistakes

1 2 3 4 5 6

u.s.

- 1 – completely untrue of me
- 2 – mostly untrue of me
- 3 – slightly more true than untrue
- 4 – moderately true of me
- 5 – mostly true of me
- 6 – describes me perfectly

66.I have a lot of trouble accepting ‘no’ for an answer when I want something from other people

1 2 3 4 5 6

67.I’m special and shouldn’t have to accept many of the restrictions placed on other people

1 2 3 4 5 6

68.I hate to be constrained or kept from doing what I want

1 2 3 4 5 6

69.I feel that I shouldn’t have to follow the normal rules and conventions other people do

1 2 3 4 5 6

70.I feel that what I have to offer is of greater value than the contributions of others

1 2 3 4 5 6

ent

71.I can’t seem to discipline myself to complete routine or boring tasks

1 2 3 4 5 6

72.If I can’t reach a goal, I become easily frustrated and give up

1 2 3 4 5 6

73.I have a very difficult time sacrificing immediate gratification to achieve a long-range goal

1 2 3 4 5 6

74.I can’t force myself to do things I don’t enjoy, even when I know it’s for my own good

1 2 3 4 5 6

75.I have rarely been able to stick to my resolutions

1 2 3 4 5 6

i.s.

Appendix IV:
Demographic Sheet

Demographic Information

***The relationship between disordered eating, perceived parenting,
and perfectionistic beliefs***

What age are you? _____

What is your approximate height? _____

What is your approximate weight? _____

Have you ever been in contact with services due to concerns over eating? YES / NO
(please circle)

If yes, please outline: _____

Are you currently in contact with services due to depression and/or anxiety?

If yes, please outline: _____

What is your marital status? Single / Married / Cohabiting / Separated / Divorced
(please circle)

Are you male or female? Male / Female

Appendix V:
Letter to Participants

Psychological Therapies Service
Murray Royal Hospital
Muirhall Road
Perth PH2 7BH

Tel: 01738 562383
Fax: 01738 562260
email: sdeas@nhs.net

[Date]

Dear Participant,

***The relationship between disordered eating, perceived parenting,
and perfectionistic beliefs***

Thank you for taking time to read this letter. I am currently in my final year of clinical psychology training (D.Clin.Psychol.) and would like to invite you to participate in my thesis study. You will find enclosed an information sheet, consent form, and pack of questionnaires. Please read the information sheet first. If you are interested in taking part, please complete the three questionnaires and demographic sheet, and return by freepost. Also, sign the consent form and return it separately. I hope to have all data collected by the end of June.

Your participation is entirely voluntary. If you do decide to take part, then be assured that the information you provide will be anonymous (you will not be identified from your responses) and confidential (your responses will not be shared with a third party).

Thank you for your interest in this study.

Sincerely,

Suzanne Deas
Trainee Clinical Psychologist

Appendix VI:
Information Sheets

Participant Information Sheet (Eating Disorders)

The relationship between disordered eating, perceived parenting, and perfectionistic beliefs

Thank you for your interest in this study, which focuses on the relationship between disordered eating, perceived parenting and perfectionistic beliefs. Previous research has found links between these three areas in those with an eating disorder. This is an important area of research, since findings may enhance the types of intervention offered and hence lead to better long-term outcomes for sufferers. The present study aims to examine these links in more detail by drawing comparisons between those who have an eating disorder and those who do not. You are being asked to participate as part of the eating disordered sample. Please read this information sheet carefully and be sure to raise any questions you may have prior to making your decision.

If you decide you would like to take part, then you should complete a questionnaire pack and a consent form. You may choose to fill these out during one of your sessions or you may prefer to complete them in your own time. The pack contains three separate questionnaires that ask about your eating pattern, your views of your parents, and your views of yourself. There are also a few demographic questions. Please answer each item honestly. Where you are unsure of a response, try to go with your gut reaction. You may find that some items give rise to difficult feelings. Your therapist is available to discuss these with you.

Voluntary Participation

Your participation in this study is completely voluntary and you may withdraw at any time. You may contact me directly (details over page) or let your therapist know. You need not give a reason for doing so and this will not affect your treatment in any way. Any data collected will then be immediately destroyed.

Confidentiality

The information you provide will be kept completely confidential and will only be analysed as part of a group, rather than individually. The same applies when presenting or publishing findings. If you would like a brief summary of the results once they are available, then please feel free to contact me. The study should be complete by August 2007. In terms of handling and storing data, the Data Protection Act (1998) will be complied with at all times. To ensure that your responses are anonymous, two separate freepost envelopes have been provided. Please insert the completed pack of questionnaires and demographic sheet in the largest envelope, and the signed consent form in the other. You may then pass these to your therapist or mail them to me directly. Your questionnaire responses will be kept separate from your consent form and both will be held securely within NHS Tayside.

Sponsorship/Ethics

This study is sponsored by the University of Edinburgh's School of Health. It has been approved through NHS Tayside Research Ethics Committee and NHS Tayside Research and Development department.

Complaints

If you are dissatisfied with any aspect of this research, then I would encourage you to get in touch with me or my supervisor (see attached letter) so that we may try to resolve any issues. Should you wish to make a formal complaint, then this can be done through the NHS complaints procedure. Details can be obtained from your therapist or by contacting the psychology department at the Murray Royal.

Useful Sources of Information

Books

Treasure, J. & Schmidt, U. (1997) *Anorexia Nervosa: A Survival Guide for Families, Friends and Sufferers*. Psychology Press

Freeman, C. (2002) *Overcoming Anorexia Nervosa*. Constable & Robinson Ltd

Dunbar, M. (1986) *Catherine*. Penguin

Websites

www.edauk.com The Eating Disorders Association has details of the UK eating disorders network and can also put you in touch with local self-help and support groups. They are based in Norwich and their telephone number is 0845 634 1414. They also offer a confidential counselling service.

www.something-fishy.org This site offers good general information and there are stories and comments from sufferers and their families/carers.

www.healthscotland.com NHS Health Scotland can supply a wide variety of information leaflets, including eating disorders. See also the Royal College of Psychiatrists' site (www.rcpsych.ac.uk).

www.samaritans.org.uk Samaritans offer confidential emotional support and are a good first port of call for anyone in a crisis. Their telephone number is 08457 909090 and this is manned 24 hours a day.

Contact Details

If you wish to discuss this study further or have any questions about the questionnaires, then do get in touch. You need not state your name or where you found out about the study.

Suzanne Deas

Trainee Clinical Psychologist

Psychological Therapies Service

Murray Royal Hospital

Muirhall Road

Perth PH2 7BH

Tel: 01738 562383

Fax: 01738 562260

Email: sdeas@nhs.net

Thank you very much again for your interest in this study.

Participant Information Sheet (Primary Care)

The relationship between disordered eating, perceived parenting, and perfectionistic beliefs

Thank you for your interest in this study, which focuses on the relationship between disordered eating, perceived parenting and perfectionistic beliefs. Previous research has found links between these three areas in those with an eating disorder. This is an important area of research, since findings may enhance the types of intervention offered and hence lead to better long-term outcomes for sufferers. The present study aims to examine these links in more detail by drawing comparisons between those who have an eating disorder and those who do not. You are being asked to participate as part of the non-eating disordered sample. Although the study focuses on eating problems, further light may also be shed on the nature of other psychological difficulties (e.g. depression, anxiety). Please read this information sheet carefully and be sure to raise any questions you may have prior to making your decision.

What does the study entail?

If you decide you would like to take part, then you should complete a questionnaire pack and a consent form. You may choose to fill these out on-site at the Murray Royal or you may prefer to take them home with you. The pack contains three separate questionnaires that ask about your eating pattern, your views of your parents, and your views of yourself. There are also a few demographic questions. Please answer each item honestly. Where you are unsure of a response, try to go with your gut reaction. You may find that some items give rise to difficult feelings. Your psychologist is available to discuss these with you, should you want them to.

Voluntary participation

Your participation in this study is completely voluntary and you may withdraw at any time. You may contact me directly (details over page) or let your psychologist know. You need not give a reason for doing so and this will not affect your treatment in any way. Any data collected will then be immediately destroyed.

Confidentiality

The information you provide will be kept completely confidential and will only be analysed as part of a group, rather than individually. The same applies when presenting or publishing findings. If you would like a brief summary of the results once they are available, then please feel free to contact me. The study should be complete by August 2007. In terms of handling and storing data, the Data Protection Act (1998) will be complied with at all times. To ensure that your responses are anonymous, two separate freepost envelopes have been provided. Please insert the completed pack of questionnaires and demographic sheet in the largest envelope, and the signed consent form in the other. You may then pass these to your psychologist, hand them in to the secretary, or mail them to me directly. Your questionnaire responses will be kept separate from your consent form and both will be held securely within NHS Tayside.

If you indicate (on the consent form) that you would like to know whether your responses on the eating questionnaire falls within a clinical range of scores, then I will contact you via the details you provide. If you would prefer this to be passed through your psychologist, then please state this.

Sponsorship/Ethics

This study is sponsored by the University of Edinburgh's School of Health. It has been approved through NHS Tayside Research Ethics Committee and NHS Tayside Research and Development department.

Complaints

If you are dissatisfied with any aspect of this research, then I would encourage you to get in touch with me or my supervisor (see attached letter) so that we may try to resolve any issues. Should you wish to make a formal complaint, then this can be done through the NHS complaints procedure. Details can be obtained from your psychologist or by contacting the psychology department's secretary at the Murray Royal.

Useful sources of information

www.edauk.com The Eating Disorders Association has details of the UK eating disorders network and can also put you in touch with local self-help and support groups. They are based in Norwich and their telephone number is 0845 634 1414. They also offer a confidential counselling service.

www.healthscotland.com NHS Health Scotland can supply a wide variety of information leaflets. See also the Royal College of Psychiatrists' site (www.rcpsych.ac.uk).

www.samaritans.org.uk Samaritans offer confidential emotional support and are a good first port of call for anyone in a crisis. Their telephone number is 08457 909090 and this is manned 24 hours a day.

Contact details

If you wish to discuss this study further or have any questions about the questionnaires, then do get in touch. You need not state your name or where you found out about the study.

Suzanne Deas	Tel: 01738 562383
Trainee Clinical Psychologist	Fax: 01738 562260
Psychological Therapies Service	Email: sdeas@nhs.net
Murray Royal Hospital	
Muirhall Road	
Perth PH2 7BH	

Thank you very much again for your interest in this study.

Participant Information Sheet (Students)

***The relationship between disordered eating, perceived parenting,
and perfectionistic beliefs***

Thank you for your interest in this study, which focuses on the relationship between disordered eating, perceived parenting and perfectionistic beliefs. Previous research has found links between these three areas in those with an eating disorder. This is an important area of research, since findings may enhance the types of intervention offered and hence lead to better long-term outcomes for sufferers. The present study aims to examine these links in more detail by drawing comparisons between those who have an eating disorder and those who do not. You are being asked to participate as part of the non-eating disordered sample. Please read this information sheet carefully and be sure to raise any questions you may have prior to making your decision.

What does the study entail?

If you decide you would like to take part, then you should complete a questionnaire pack and a consent form. The pack contains three separate questionnaires that ask about your eating pattern, your views of your parents, and your views of yourself. There are also some demographic questions. Please answer each item honestly. Where you are unsure of a response, try to go with your gut reaction. You may find that some items give rise to difficult feelings. Should you want to discuss these feelings further, the Student's Association offer support and advice for a range of personal issues (01786 466991). Your GP and Director of Studies can also offer support. You may also contact me by any one of the contact details over page if you would like further information.

Voluntary participation

Your participation in this study is completely voluntary and you may withdraw at any time by contacting me directly. You need not give a reason for doing so. Any data collected will then be immediately destroyed.

Confidentiality

The information you provide will be kept completely confidential and will only be analysed as part of a group, rather than individually. The same applies when presenting or publishing findings. If you would like a brief summary of the results once they are available, then please feel free to contact me. The study should be complete by August 2007. In terms of handling and storing data, the Data Protection Act (1998) will be complied with at all times. To ensure that your responses are anonymous, two separate freepost envelopes have been provided. Please insert the completed pack of questionnaires and demographic sheet in the largest envelope, and the signed consent form in the other. You may then leave them behind after your lecture or post them to me directly. Your questionnaire responses will be kept separate from your consent form and both will be held securely within NHS Tayside.

If you indicate (on the consent form) that you would like to know whether your responses on the eating questionnaire falls within a clinical range of scores, then I will contact you via the details you provide. I would be happy to discuss your responses with you and suggest the most appropriate sources of further help.

Sponsorship/Ethics

This study is sponsored by the University of Edinburgh's School of Health. It has been approved through NHS Tayside Research Ethics Committee and NHS Tayside Research and Development department.

Complaints

If you are dissatisfied with any aspect of this research, then I would encourage you to get in touch with me or my supervisor (see attached letter) so that we may try to resolve any issues. Should you wish to make a formal complaint, then this can be done through the NHS complaints procedure. Details can be obtained from your GP or by contacting the psychology department's secretary at the Murray Royal Hospital.

Useful sources of information

www.edauk.com The Eating Disorders Association has details of the UK eating disorders network and can also put you in touch with local self-help and support groups. They are based in Norwich and their telephone number is 0845 634 1414. They also offer a confidential counselling service.

www.healthscotland.com NHS Health Scotland can supply a wide variety of information leaflets. See also the Royal College of Psychiatrists' site (www.rcpsych.ac.uk).

www.samaritans.org.uk Samaritans offer confidential emotional support and are a good first port of call for anyone in a crisis. Their telephone number is 08457 909090 and this is manned 24 hours a day.

Contact details

If you wish to discuss this study further or have any questions about the questionnaires, then do get in touch. You need not state your name or where you found out about the study.

Suzanne Deas	Tel: 01738 562383
Trainee Clinical Psychologist	Fax: 01738 562260
Psychological Therapies Service	Email: sdeas@nhs.net
Murray Royal Hospital	
Muirhall Road	
Perth PH2 7BH	

Thank you very much again for your interest in this study.

Appendix VII:
Consent Forms

Consent Form

***The relationship between disordered eating, perceived parenting,
and perfectionistic beliefs***

(Please circle)

I confirm that I have read and understand the information sheet
(Version 2 08/02/07) for the above study, and have had any questions
answered satisfactorily.

YES / NO

I understand that my participation is voluntary and that I am free to
withdraw at any time without giving a reason and without my care
or legal rights being affected.

YES / NO

I also agree that the information I provide may be used in future research.

YES / NO

I agree to take part in the above study.

YES / NO

Name of Participant:

Signature of Participant:

Date:

Would you like to know whether your EDE-Q score falls within a range suggestive of an
eating disorder?

YES / NO

If YES, please supply your contact details:

Consent Form

***The relationship between disordered eating, perceived parenting,
and perfectionistic beliefs***

(Please circle)

I confirm that I have read and understand the information sheet
(Version 2 08/02/07) for the above study, and have had any questions
answered satisfactorily.

YES / NO

I understand that my participation is voluntary and that I am free to
withdraw at any time without giving a reason and without my care
or legal rights being affected.

YES / NO

I also agree that the information I provide may be used in future research.

YES / NO

I agree to take part in the above study.

YES / NO

Name of Participant:

Signature of Participant:

Date:

Appendix VIII:
Letter from Supervisor

Psychological Therapies Service
Murray Royal Hospital
Muirhall Road
Perth PH2 7BH

Tel: 01738 562383
Fax: 01738 562260

[Date]

Dear Participant,

***The relationship between disordered eating, perceived parenting,
and perfectionistic beliefs***

This is to certify that the above study is currently being conducted by Suzanne Deas, Trainee Clinical Psychologist, as part of her training qualification in clinical psychology. I am supervising the study, which is supported by the psychology department here at the Murray Royal Hospital and also the University of Edinburgh's School of Health.

If you would like further information about this, then I would be happy for you to contact me.

Sincerely,

Dr Paula Collin
Chartered Clinical Psychologist

Appendix IX:
Feedback of EDE Score

Psychological Therapies Service
Murray Royal Hospital
Muirhall Road
Perth PH2 7BH

Tel: 01738 562383
Fax: 01738 562260
email: _____

[Date]

[Participant's details]

Dear _____,

***The relationship between disordered eating, perceived parenting,
and perfectionistic beliefs***

Thank you for taking part in the above questionnaire-based study earlier this year. You indicated on your consent form that you would like to be informed if your responses related to eating fell within a clinical range of scores. Your overall score on the measure of eating attitudes and behaviours did fall within a disordered range. This does not necessarily mean that you have a diagnosable eating disorder; any such diagnosis would involve a full clinical interview and medical examination.

You may already be aware of problems surrounding your relationship with food and/or your body shape/weight. Your psychologist [or GP, Counselling Service re. students] would be happy to discuss any concerns you may have about eating.

There are additional sources of help on offer and I thought it would be helpful to outline the main options. It is of course your own decision whether you utilise the help that is available to you.

- Self-help. There are a number of useful sources of information and support. Some of these were detailed on the Information Sheet provided in your questionnaire pack:
 - Treasure, J. & Schmidt, U. (1997) *Anorexia Nervosa: A Survival Guide for Families, Friends and Sufferers*
 - Freeman, C. (2002) *Overcoming Anorexia Nervosa*
 - Cooper, P.J. (2002) *Bulimia Nervosa and Binge Eating: A Guide to Recovery*
 - www.b-eat.co.uk The beat, formerly the Eating Disorders Association, has details of the UK eating disorders network and can also put you in touch with local self-help and support groups. They are based in Norwich and their telephone number is 0845 634 1414. They also offer a confidential counselling service.

- www.something-fishy.org This site offers good general information and there are stories and comments from sufferers and their families/carers.
 - www.healthscotland.com NHS Health Scotland can supply a wide variety of information leaflets, including eating disorders. See also the Royal College of Psychiatrists' site (www.rcpsych.ac.uk).
 - www.samaritans.org.uk Samaritans offer confidential emotional support and are a good first port of call for anyone in a crisis. Their telephone number is 08457 909090 and this is manned 24 hours a day.
- GP consultation. Your GP is usually your first point of contact in seeking help. S/he can offer general support and advice, and will continue to monitor your physical condition. A dietician may also be involved, either as a one-off assessment or for continued nutritional support and education.
 - Psychotherapy. Your GP may decide that referral on to psychological services is warranted in order to help with underlying thoughts and emotions. Typically, this would involve either individual or group intervention with a qualified health professional.

If you want to discuss your questionnaire responses further or would like more information on eating disorders, then please do get in touch.

Thank you once again for participating in this study.

Sincerely,

Suzanne Deas
Trainee Clinical Psychologist

Appendix X:
Ethical Approval



Fife



Forth Valley



Tayside

Fife, Forth Valley & Tayside Research Ethics Service

Tayside Committee on Medical Research Ethics B
Research Ethics Office
Level 9
Ninewells Hospital & Medical School
DUNDEE
DD1 9SY

Ms Suzanne Deas
Trainee Clinical Psychologist
NHS Tayside
Clinical Psychology Department
Murray Royal Hospital
Muirhall Road, Perth
PH2 7BH

Date: 15 March 2007
Your Ref:
Our Ref: **FB/07/S1402/8**
Enquiries to: Miss Fiona Bain
Extension: Ninewells extension 32701
Direct Line: [redacted]
Email: [redacted]

Dear Ms Deas

Full title of study: **The relationship between eating pathology, perceived parental bonding and perfectionistic core beliefs in Anorexia Nervosa**
REC reference number: **07/S1402/8**

Thank you for your letter of 02 March 2007, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Administrator.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The favourable opinion applies to the research sites listed on the attached form.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Application		20 December 2006
Investigator CV	1	08 December 2006
Protocol	1	08 December 2006
Covering Letter		18 December 2006



Document	Version	Date
Summary/Synopsis	Study Flowchart - 1	08 December 2006
Compensation Arrangements	Clinical Trial Liability Insurance Certificate	28 July 2006
Questionnaire: Parental Bonding Instrument (PBI) - Mother		
Questionnaire: Eating Questionnaire		
Questionnaire: Demographic Information	1	18 December 2006
Questionnaire: Young Schema Questionnaire - Short Form (YSQ)		
Questionnaire: Parental Bonding Instrument (PBI) - Father		
Letter of invitation to participant	1	08 December 2006
Participant Information Sheet: Eating Disorders	1	08 February 2007
Participant Information Sheet: Students	2	08 February 2007
Participant Information Sheet: Primary care	2	08 February 2007
Participant Consent Form	2.2	08 February 2007
Participant Consent Form: For EDE-Q score	2.1	08 February 2007
Response to Request for Further Information		02 March 2007
Covering letter from Supervisor	Dr Paula Collin	08 February 2007
CV	Professor Kevin G Power	08 December 2006
CV	Professor David F Peck	11 December 2006
CV	Paula Collin	
Letter from The Priory Hospital		18 December 2006
Letter from Mrs Anne Fernon		12 December 2006

R&D approval

The study should not commence at any NHS site until the local Principal Investigator has obtained final approval from the R&D office for the relevant NHS care organisation.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

07/S1402/8	ie quote this number on all correspondence
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Yours sincerely

Dr Margaret A R Thomson
Chair

Enclosures: Standard approval conditions
Site approval form

Copy to: University of Edinburgh
NHS Tayside R&D office



EC/LH

17 April 2007

Ms Suzanne Deas
Trainee Clinical Psychologist
Clinical Psychology Department
Murray Royal Hospital
Muirhall Road
PERTH
PH2 7BH

Dear Ms Deas,

NHS TAYSIDE MANAGEMENT/GOVERNANCE APPROVAL

R&D Project ID: 2007PW02

Title: The relationship between eating pathology, perceived parental bonding and perfectionistic core beliefs in Anorexia Nervosa.

LREC Ref: 07/S1402/8 LREC Approval Date: 15/03/07

Funding: Unfunded

Sponsor: University of Edinburgh

NHS Support Costs: None

The above project has been registered on the NHS Tayside R&D database, as required by the Research Governance Framework. Full LREC approval has been obtained and there are no local NHS Support Costs associated with this research project.

NHS Tayside has no objection to the project proceeding, provided all necessary approvals are in place and all amendments to the protocol, personnel involved and funding be notified to the R&D Office and all appropriate personnel.

It is important to note that all research must be carried out in compliance with the Research Governance Framework for Health & Community Care, GCP and the new EU Clinical Trials Directive (for clinical trials involving investigational medicinal products).

Kind Regards

c.c. Ms Fiona Bain (REC Administrator, NHS Tayside)

SC/MMC

18th December 2006

Ms Suzanne Deas
Clinical Psychology
NHS Tayside / Edinburgh University
Scotland

Dear Suzanne

I am writing to inform you that I have discussed with Dr Alex Yellowlees your request for access to our patient group to assist you in the research you are conducting as part of your thesis as a Clinical Psychology Student at Edinburgh University. We have agreed that you can have access to recruit participants and would advise you to contact me if you are successful in gaining ethical approval to allow this process to commence.

Yours sincerely

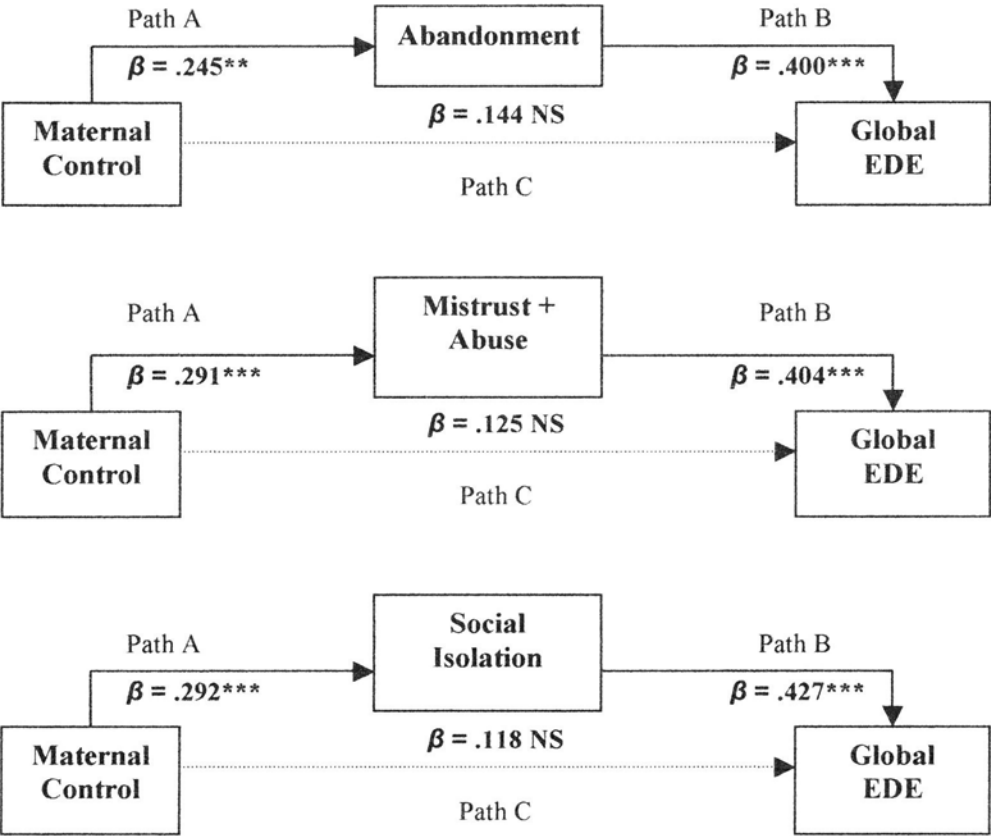
Stuart Cummings
Clinical Services Manager

THE PRIORY HOSPITAL GLASGOW
38-40 MANSIONHOUSE ROAD
GLASGOW G41 3DW
TEL 0141 636 6116 FAX 0141 636 5151
email: glasgow@prioryhealthcare.com
www.prioryhealthcare.com

SC46

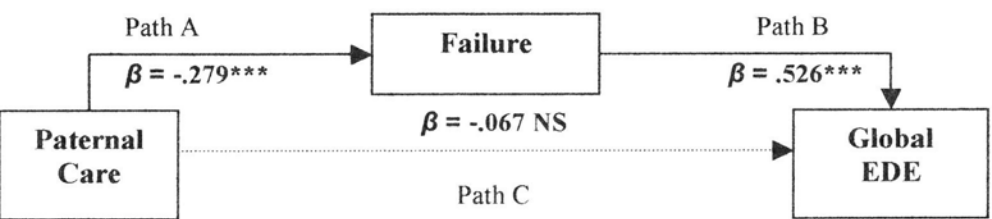
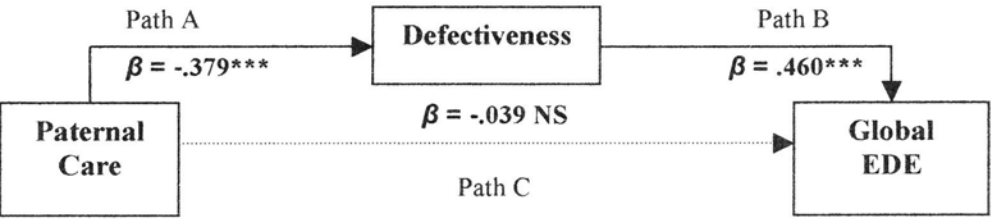
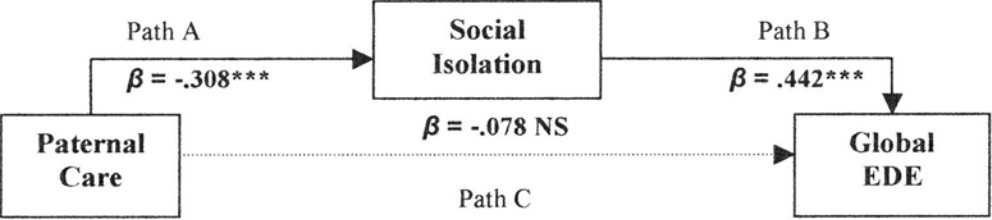
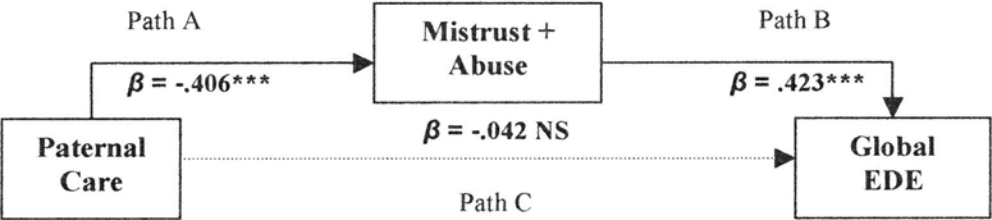
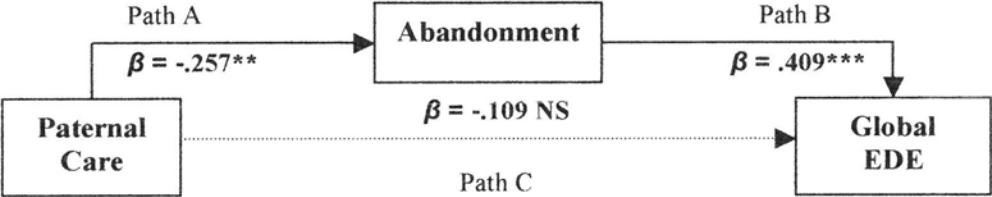
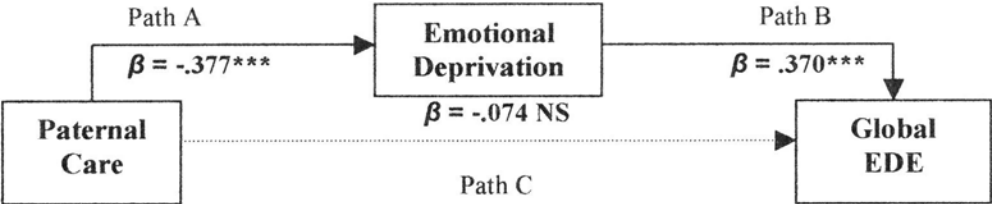
Appendix XI:
Overall Path Models

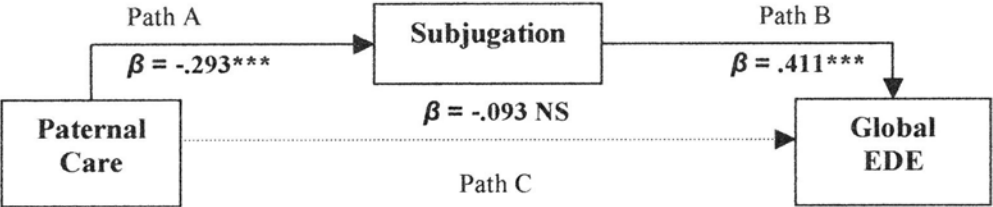
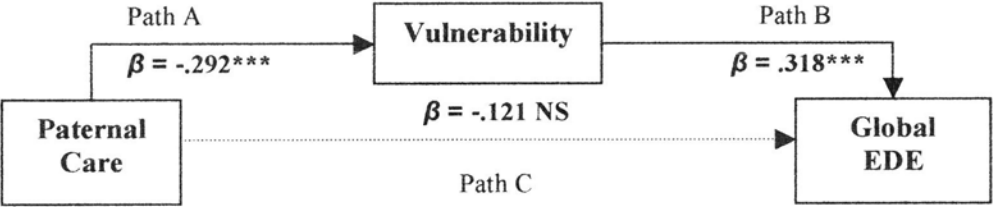
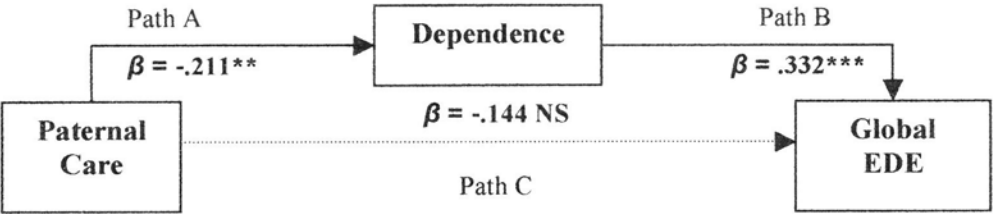
The Path diagrams below show the schemas that significantly mediated between Maternal Control and Global EDE among the entire sample.



****** $p < .01$; ******* $p < .001$; NS = non-significant

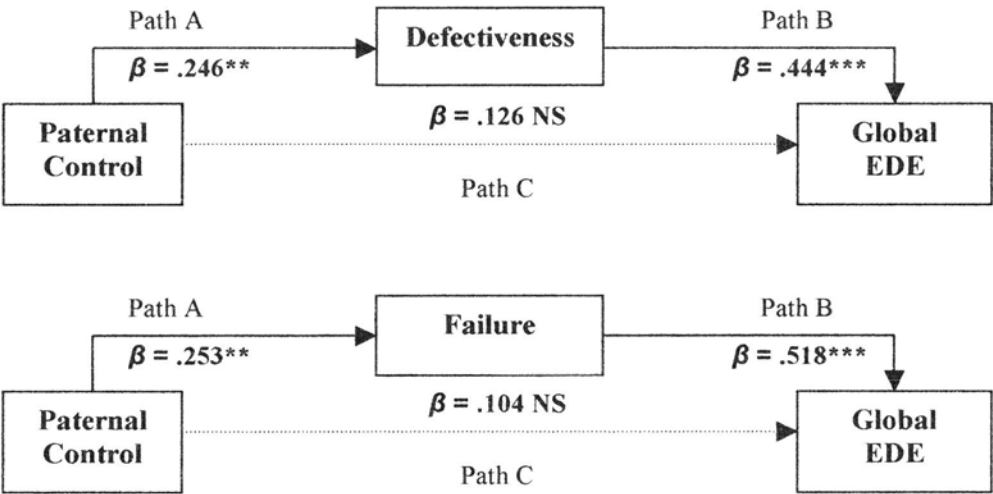
The Path diagrams below show the schemas that significantly mediated between Paternal Care and Global EDE among the entire sample.





****** $p < .01$; ******* $p < .001$; NS = non-significant

The Path diagrams below show the schemas that significantly mediated between Paternal Control and Global EDE among the entire sample.



****** $p < .01$; ******* $p < .01$; NS = non-significant

Appendix XII:
Acknowledgements

I would like to take this opportunity to give my heartfelt thanks to the supervisors involved in this study: Dr Paula Collin (Clinical Psychologist), Professor Kevin Power (Head of Service) and Professor Dave Peck (Academic Supervisor). This thesis is largely a product of their enthusiasm, guidance and encouragement. Thanks are also due to Dr Gillian Paterson (Clinical Psychologist), Dr Calum Jackson (Clinical Psychologist) and Colm Dunne (Assistant Psychologist), who have been extremely supportive throughout the duration of this study.

This thesis would not have been possible without the interest and enduring help of all patients and staff at The Priory Hospital, Glasgow, particularly Katy Park (Unit Manager), David Grierson (Hospital Director) and Alex Yellowlees (Consultant Psychiatrist). The same is true for patients and staff within NHS Tayside's Psychological Therapies Service, and special thanks are due here to Lesley Grimmond (Clinical Associate). Their support in respect of gathering data will be forever more appreciated. Warm thanks are also extended to students and staff from the University of Stirling, particularly to Dr Vivien Swanson (Lecturer in Psychology).

Finally, to all family, friends and fellow trainees, a huge thank you!